

Service  
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**Service**



# Service Manual



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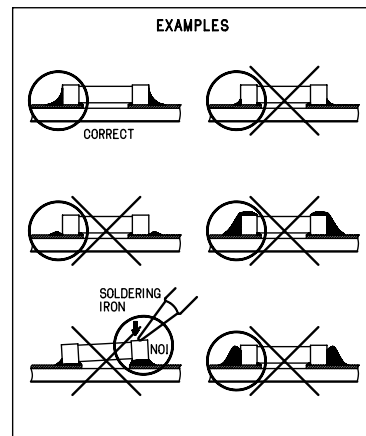
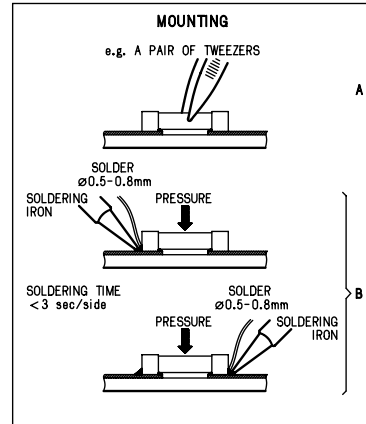
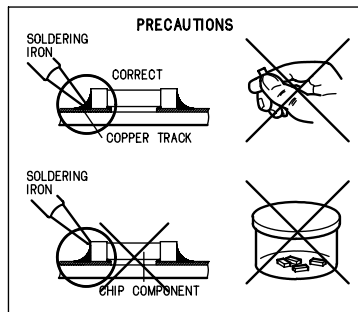
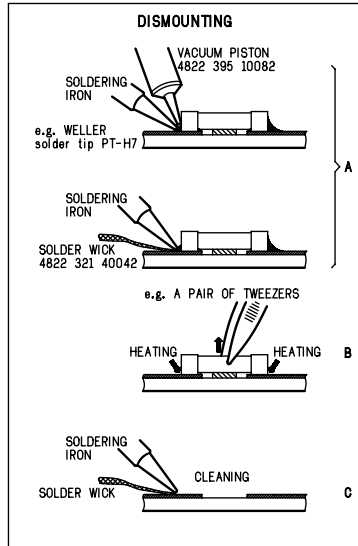
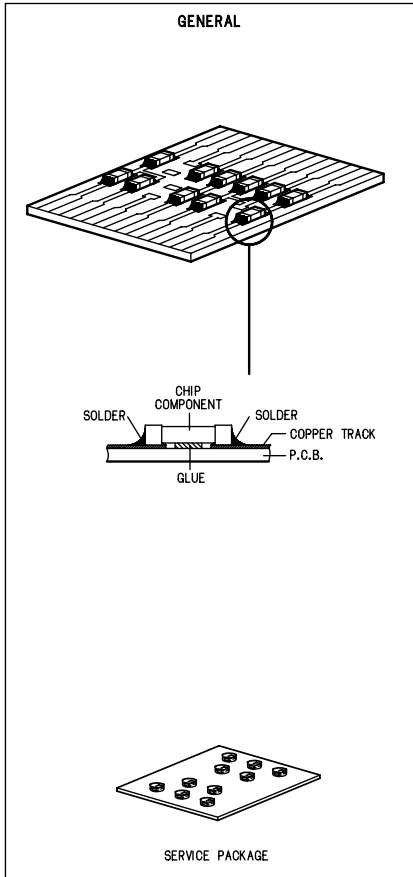
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**PHILIPS**

# HANDLING CHIP COMPONENTS



**(GB) WARNING**  
 All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.



**(NL) WAARSCHUWING**  
 Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**(F) ATTENTION**  
 Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux d charges statiques (ESD). Leur long vite pourrait tre consid rablement court e par le fait qu'aucune pr caution n st prise leur manipulation. Lors de r parations, s'assurer de bien tre reli au m me potentiel que la masse de l'appareil et enfileur le bracelet senti d'une r sistance de s curit . Veiller ce que les composants ainsi que les outils que l'on utilise soient galemment ce potentiel.

**(D) WARNUNG**  
 Alle ICs und viele andere Halbleiter sind empfindlich gegen ber elektrostatischen Entladungen (ESD). Unvorsorg lige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Sorgen Sie daf r, da' Sie im Reparaturfall ber ein Puls- armband mit Widerstand mit dem Massepotential des Ger tes verbunden sind. Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

**(I) AVVERTIMENTO**  
 Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevit potrebbe essere fortemente ridatta in caso di non osservazione della pi grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa del pparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**(GB)**  
 Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used. Safety components are marked by the symbol ▲

**(F)**  
 Les normes de s curit exigent que l'appareil soit remis l tat d origine et que soient utilis es les pi ces de rechange identiques celles sp cifi es. Les composants de s curit sont marqu s ▲



**(D)**  
 Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Ger tes darf nicht ver ndert werden. F r Reparaturen sind Originalersatzteile zu verwenden. Sicherheitsbauteile sind durch das Symbol ▲ markiert.

**(NL)**  
 Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast. De Veiligheidsonderdelen zijn aangeduid met het symbool ▲

**(I)**  
 Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati. Componenty di sicurezza sono marcati con ▲

**DANGER:** Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.



**(S) Varning !**  
 Osynlig laserstr lning n r apparaten r ppnad och sp rren r urkopplad. Betrakta ej str len.

**(DK) Advarsel !**  
 Usynlig laserstr lning ved bning n r sikkerhedsafbrydere er ude af funktion. Undg udsaettelse for str lning.

**(FIN) Varoitus !**  
 Avatussa laitteessa ja suojalukituksen ohitettaessa olet alltiina n kym tt m lle laseris teilylle. l katso s teeseen !

**(GB)**  
 After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists. The leakage current must not exceed 0.5mA.

**(F)**  
 "Pour votre s curite, ces documents doivent tre utilis s par des sp cialistes agr s, seuls habilit s r parer votre appareil en panne".

## TECHNICAL SPECIFICATIONS

### GENERAL

Mains voltage	-/21/21M : 120 / 230 V
	-/37 : 120 V
	-/22/30/33 : 230 V
	-/25 : 240 V
Mains frequency	-/22/25/30/33 : 50 Hz
	-/21/21M : 50 / 60 Hz
	-/37 : 60 Hz
Battery	remote : 3 V (R6 x 2)
Power consumption	normal : 60 W
	Standby : 3 W
Dimension (W x H x D)	: 231 x 140 x 280 mm
Weight	: 5.7 Kg

### AMPLIFIER

Output power	mains : 2 x 8 W
Speaker impedance	: 2 x 8 ohm
Frequency response	: 100 Hz - 10 kHz (-4dB)

### TUNER - FM SECTION

Tuning range	: 87.5 - 108 MHz
IF frequency	: 10.7 MHz – 0.02 MHz
Sensitivity	: 16 dBf at 26dB S/N
Selectivity	300kHz : 55 dB
IF suppression	: 85 dB
Image suppression	: 40 dB
Channel separation	1kHz : 28 dB

### TUNER - AM SECTION

Tuning range	MW : 531 - 1602 kHz
	-/37 : 530 - 1700 kHz
Tuning range	LW : 153 - 279 kHz
IF frequency	: 450 kHz – 1 kHz
Sensitivity	MW : ≤ 3.5 mV/m at 26dB S/N
	LW : ≤ 4.2 mV/m
Selectivity	MW : < 22 dB
	LW : < 35 dB
IF rejection	MW : < 64 dB
Spurious rejection ratio	MW : < 58 dB
	LW : < 51 dB
Image rejection ratio	MW : < 40 dB
	LW : < 47 dB

### AUDIO CASSETTE RECORDER

Frequency response	: 80 - 12500 Hz
Wow & flutter	: 0.4 % (DIN)
Tape speed	: 4.76 cm/s – 2 %
Channel difference	1kHz : 0 dB
S/N ratio (unw.)	Ferro : 47 dB
	Chrome : 50 dB
S/N ratio (wght.)	Ferro : 52 dB
	Chrome : 56 dB

### COMPACT DISC

Frequency response	: 20Hz —20kHz within 1.5dB
S/N ratio (unw.)	: > 85 dB
S/N ratio (A-wght.)	: > 90 dB
THD+N	1 kHz : > 72 dB
Channel crosstalk	: > 50 dB
Channel unbalance	: < -1 dB

## SERVICE TOOLS

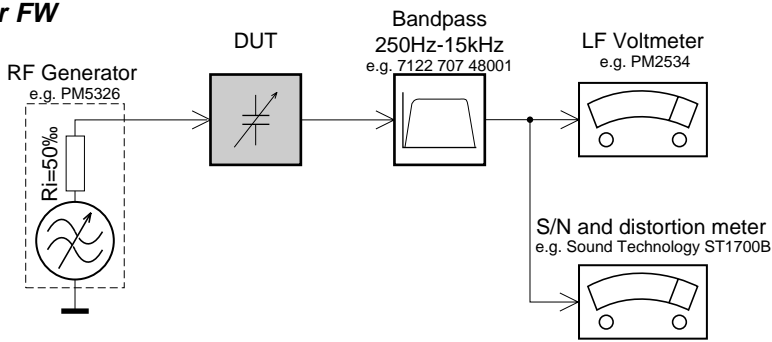
<b>TORX T10</b> screwdriver with shaftlength 150mm.....	4822 395 50423
<b>TORX screwdriver set</b> SBC 163.....	4822 295 50145
<b>Audio signal disc</b> SBC 429.....	4822 397 30184
<b>Playability test disc</b> SBC 444.....	4822 397 30245
<b>Test disc 5</b> (disc without errors) +	
<b>Test disc 5A</b> (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
<b>Burn in test disc</b> (65 min. 1kHz signal at -30 dB level without pause ..)	4822 397 30155
<b>Universal test cassette</b> Fe SBC 420.....	4822 397 30071

## AVAILABLE ESD PROTECTION EQUIPMENT

<b>anti-static table mat</b> large 1200x650x1.25mm	4822 466 10953
small 600x650x1.25mm	4822 466 10958
<b>anti-static wristband</b>	4822 395 10223
<b>connection box</b> (3 press stud connections, 1M%)	4822 320 11307
<b>extendible cable</b> (2m, 2M%, to connect wristband to connection box)	4822 320 11305
<b>connecting cable</b> (3m, 2M%, to connect table mat to connection box)	4822 320 11306
<b>earth cable</b> (1M%, to connect any product to mat or to connection box)	4822 320 11308
<b>KIT ESD3</b> (combining all 6 prior products - small table mat)	4822 310 10671
<b>wristband tester</b>	4822 344 13999

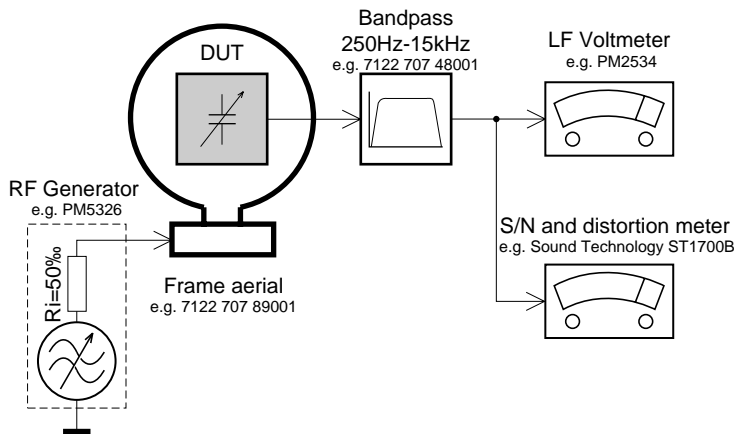
## SERVICE MEASUREMENT

### Tuner FW



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

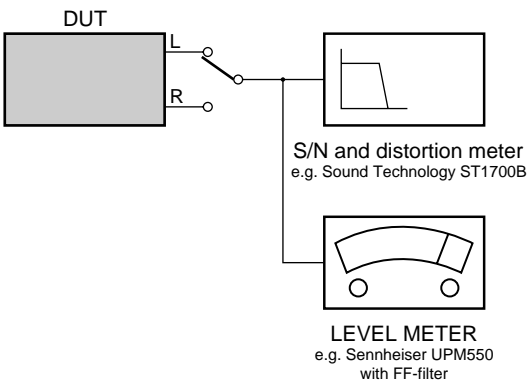
### Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday«s cage. Use a bandpass filter (or at least a high pass filter with 250kHz) to eliminate hum (50Hz, 100Hz).

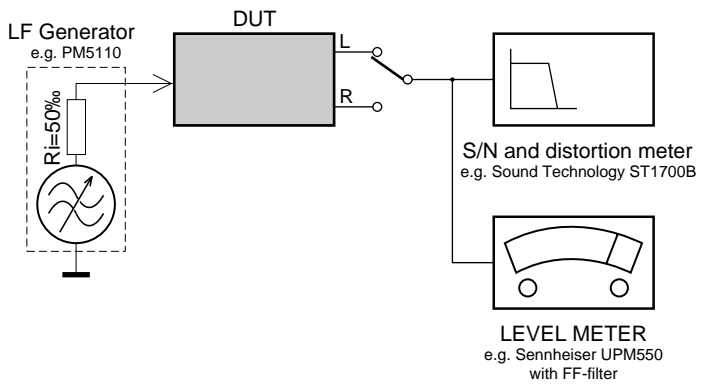
### CD

Use Audio Signal Disc SBC429 4822 397 30184 (replaces test disc 3)



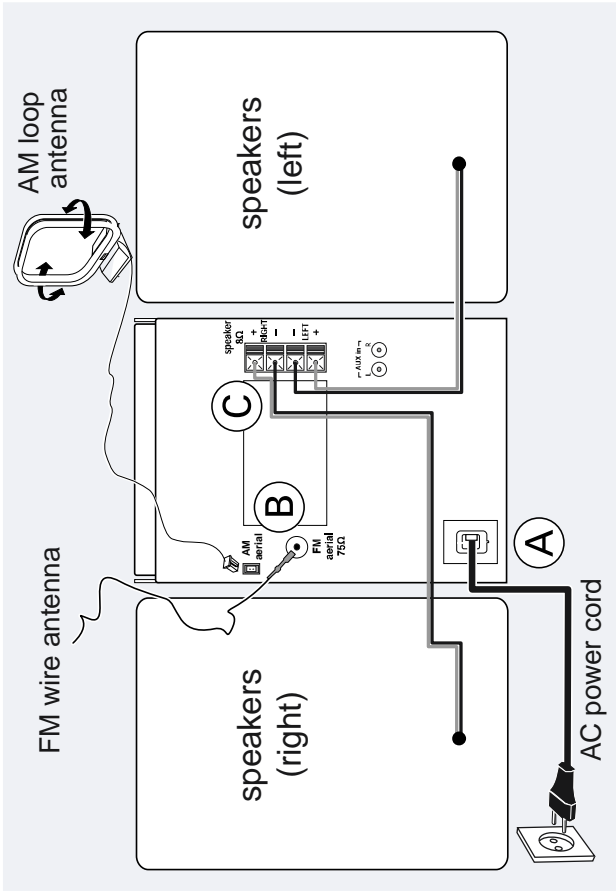
### RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071





## Preparations



### Rear connections

The type plate is located at the rear of the system.

#### (A) Power

Before connecting the AC power cord to the wall outlet, ensure that all other connections have been made.

#### WARNING!

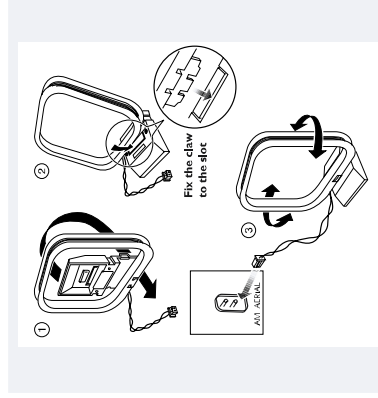
- For optimal performance, use only the original power cable.
- Never make or change any connections with the power switched on.

To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions)

#### (B) Antennas Connection

Connect the supplied AM loop antenna and FM antenna to the respective terminals. Adjust the position of the antenna for optimal reception.

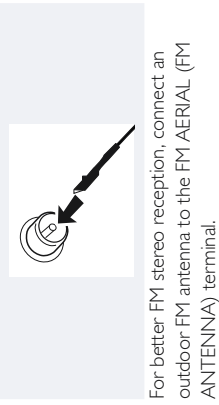
#### AM Antenna



Position the antenna as far as possible from a TV, VCR or other radiation source.

## Preparations

### FM Antenna

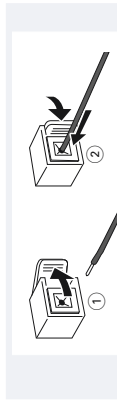


For better FM stereo reception, connect an outdoor FM antenna to the FM AERIAL (FM ANTENNA) terminal.

#### (C) Speakers Connection

##### Front Speakers

Connect the speaker wires to the SPEAKERS terminals, right speaker to "RIGHT" and left speaker to "LEFT", coloured (marked) wire to "+", and black (unmarked) wire to "-".



Fully insert the stripped portion of the speaker wire into the terminal as shown.

#### Notes:

- For optimal sound performance, use the supplied speakers.
- Do not connect more than one speaker to any one pair of + / - speaker terminals.
- Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

### Optional connection

The optional equipment and connecting cords are not supplied. Refer to the operating instructions of the connected equipment for details.

### Connecting other equipment to your system

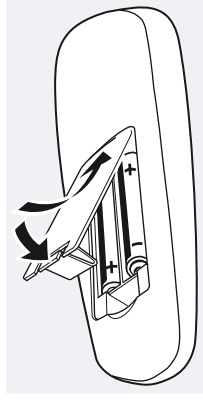
Connect the audio left and right OUT terminals of a TV, VCR, Laser Disc player, DVD player or CD Recorder to the **AUX IN** terminals.

#### Note:

- If you are connecting equipment with a mono output (a single audio out terminal), connect it to the **AUX IN** left terminal. Alternatively, you can use a "single to double" cinch cable (the output sound still remain mono).

### Inserting batteries into the remote control

Insert two batteries (not supplied) type R03 or AAA into the remote control with the correct polarity as indicated by the "+" and "-" symbols inside the battery compartment.



#### CAUTION!

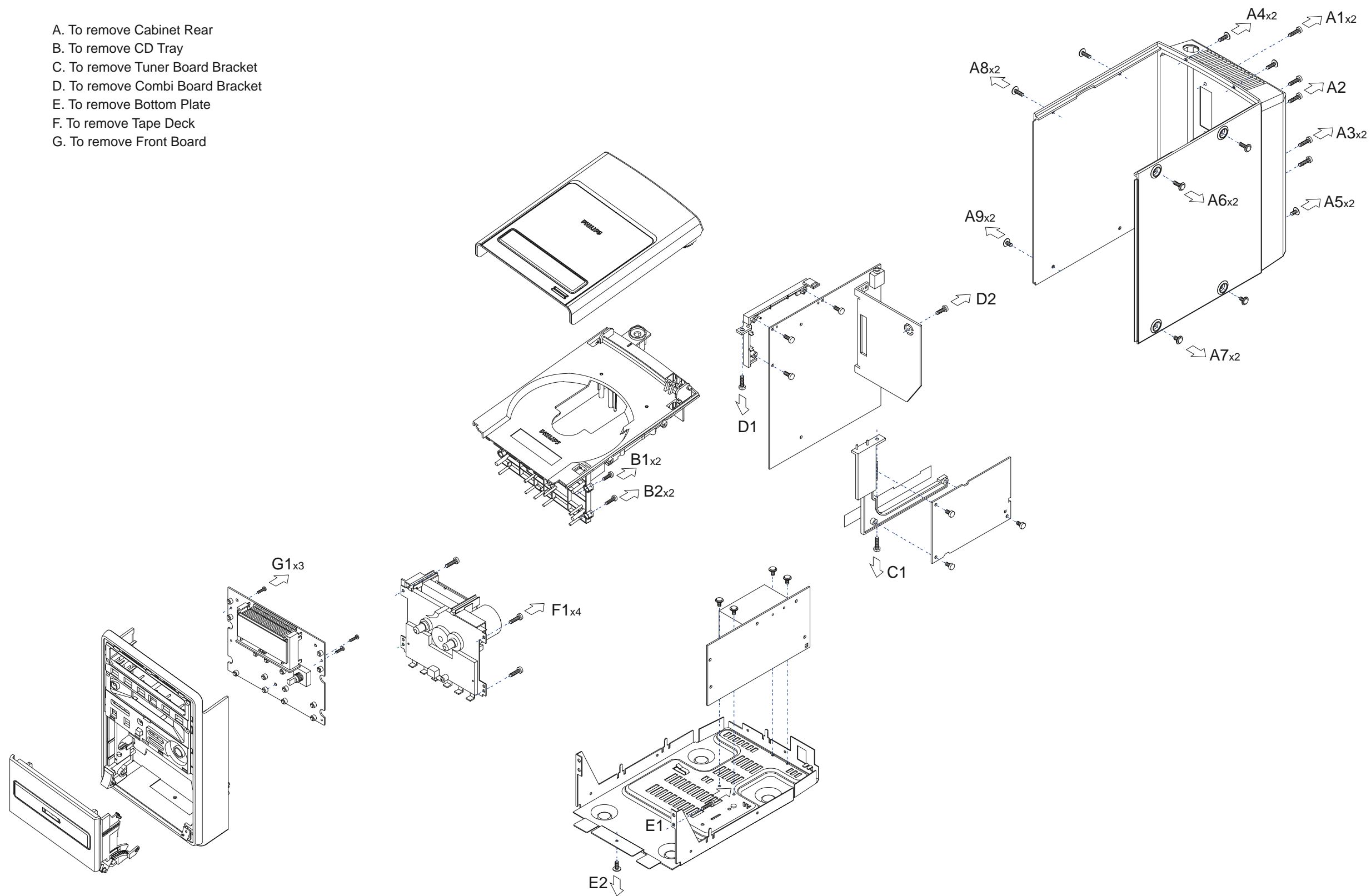
- Remove batteries if they are exhausted or will not be used for a long time.
- Do not use old and new or different types of batteries in combination.
- Batteries contain chemical substances, so they should be disposed off properly.

For more information on operation instruction please visit Philips Audio internet site :

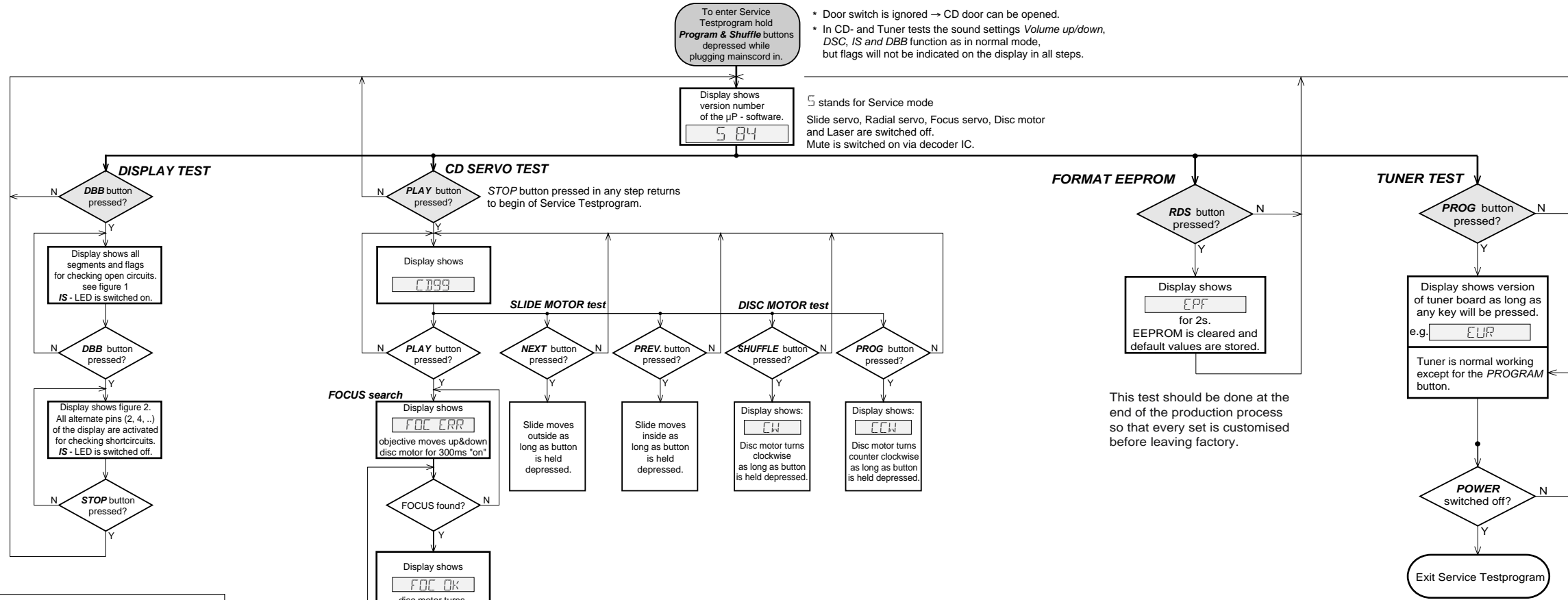
<http://www.audio.philips.com>

## DISASSEMBLY DIAGRAM

- A. To remove Cabinet Rear
- B. To remove CD Tray
- C. To remove Tuner Board Bracket
- D. To remove Combi Board Bracket
- E. To remove Bottom Plate
- F. To remove Tape Deck
- G. To remove Front Board



CD SERVICE TEST PROGRAM



- Door switch is ignored → CD door can be opened.
- In CD- and Tuner tests the sound settings *Volume up/down*, *DSC*, *IS* and *DBB* function as in normal mode, but flags will not be indicated on the display in all steps.

5 stands for Service mode  
Slide servo, Radial servo, Focus servo, Disc motor and Laser are switched off.  
Mute is switched on via decoder IC.

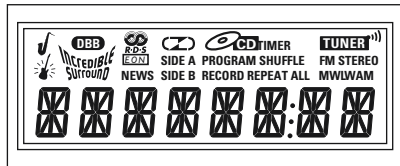


fig. 1

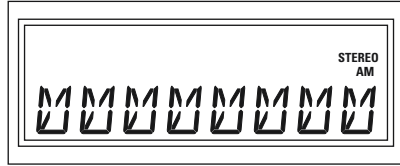


fig. 2

TUNER VERSIONS			
	EUR	USA	OSE
<b>REGION &amp; SET VERSIONS</b>	<b>EUROPE FM/MW</b>	<b>USA FM/MW</b>	<b>OVERSEAS FM/MW</b>
	/22/25	/37	<sup>1)</sup> Grid switchable 100/10kHz - 50/9kHz /21/21M/30

table 2

CD ERROR CODES

Error number	Error description	Error type
E1000	<b>Focus error</b> Triggered when the focus is lost during playing the CD.	W
E1001	<b>Radial error</b> Triggered when the radial servo is not on track for a certain time during playing the CD.	W
E1002	<b>Slide-in error</b> The sledge did not reach its inner position (innerswitch is closed) before approximately 6 seconds have passed by - innerswitch or sledgemotor problem.	W
E1003	<b>Slide-out error</b> The sledge did not come out of its inner position (innerswitch is open) before approximately 300ms have passed by - innerswitch or sledgemotor problem.	W
E1005	<b>Jump error</b> Triggered when the jump destination could not be found within a certain time.	W
E1006	<b>Subcode error</b> No valid subcode for a certain time during play.	W
E1007	<b>PLL error</b> The Phase-Lock-Loop could not lock within a certain time.	W
E1008	<b>Turntable motor error</b> Generated when the CD could not reach 75% of speed during start-up within a certain time. Discmotor problem.	W
E1020	<b>Focus search error</b> The focus point has not been found within a certain time.	F

table 1

<sup>1)</sup> To toggle frequency grid press **SHUFFLE** button for more than 5s in normal tuner mode (**not** in service testmode).

Display will show either **GRID 9** or **GRID 10** for 2 s.

**Error type:** W = Warning → set continues operation, message remains on the display until next error occurs or any key is pressed.

F = Fatal Error → set stops operation, message remains on the display.



**Abbreviations and Pin-description of CD Ics****SERVO PROCESSOR SAA7 325H**

SYMBOL	PIN	DESCRIPTION
HFREF	1	comparator common mode input
HFIN	2	comparator signal input
ISLICE	3	current feedback output from data slicer
V <sub>SSA1</sub>	4 <sup>(1)</sup>	analog ground 1
V <sub>DDA1</sub>	5 <sup>(1)</sup>	analog supply voltage 1
I <sub>ref</sub>	6	reference current output pin
V <sub>RIN</sub>	7	reference voltage for servo ADC's
D1	8	unipolar current input (central diode signal input)
D2	9	unipolar current input (central diode signal input)
D3	10	unipolar current input (central diode signal input)
D4	11	unipolar current input (central diode signal input)
R1	12	unipolar current input (satellite diode signal input)
R2	13	unipolar current input (satellite diode signal input)
V <sub>SSA2</sub>	14 <sup>(1)</sup>	analog ground 2
CROUT	15	crystal/resonator output
CRIN	16	crystal/resonator input
V <sub>DDA2</sub>	17 <sup>(1)</sup>	analog supply voltage 2
LN	18	DAC left channel differential output - negative
LP	19	DAC left channel differential output - positive
V <sub>neg</sub>	20	DAC negative reference input
V <sub>pos</sub>	21	DAC positive reference input
RN	22	DAC right channel differential output - negative
RP	23	DAC right channel differential output - positive
SELPLL	24	selects whether internal clock multiplier PLL is used
TEST1	25	test control input 1; this pin should be tied LOW
CL16	26	16.9344 MHz system clock output
DATA	27	serial d4(1)ata output (3-state)
WCLK	28	word clock output (3-state)
SCLK	29	serial bit clock output (3-state)
EF	30	C2 error flag output (3-state)
TEST2	31	test control input 2; this pin should be tied LOW
KILL	32	kill output (programmable; open-drain)
V <sub>SSD1</sub>	33 <sup>(1)</sup>	digital ground 2
V2/V3	34	versatile I/O: input versatile pin 2 or output versatile pin 3 (open-drain)
WCLI	35	word clock iutput (for data loopback to DAC)
SDI	36	serial data input (for data loopback to DAC)
SCLI	37	serial bit clock input (for data loopback to DAC)
RESET	38	power-on reset input (active LOW)
SDA	39	microcontroller interface data I/O line (open-drain output)
SCL	40	microcontroller interface clock line input

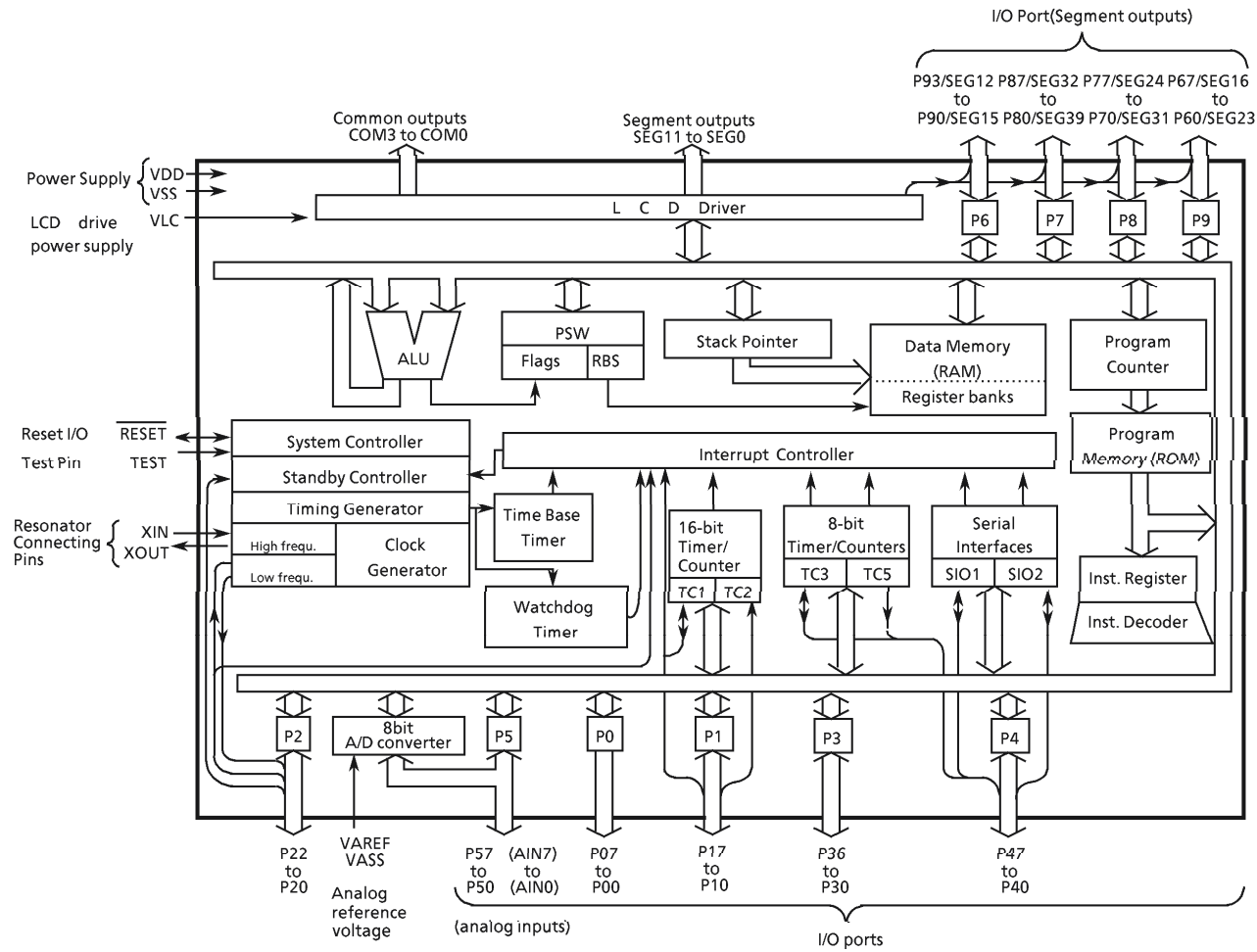
**Abbreviations and Pin-description of CD Ics****SERVO PROCESSOR SAA7 325H**

SYMBOL	PIN	DESCRIPTION
RAB	41	microcontroller interface R/W and load control line input (4-wire bus mode)
SILD	42	microcontroller interface R/W and load control line input (4-wire bus mode)
STATUS	43	servo interrupt request line/decoder status register output (open-drain)
TEST3	44	test control input 3; this pin should be tied LOW
RCK	45	subcode clock input
SUB	46	P-to-W subcode bits output (3-state)
SFSY	47	subcode frame sync output (3-state)
SBSY	48	subcode block sync output (3-state)
CL11/4	49	11.2896 MHz or 4.2336 MHz (for microcontroller) clock output
V <sub>SSD2</sub>	50 <sup>(1)</sup>	digital ground 3
DOBM	51	bi-phase mark output (externally buffered; 3-state)
V <sub>DD1(P)</sub>	52 <sup>(1)</sup>	digital supply voltage 2 for periphery
CFLG	53	correction flag output (open-drain)
RA	54	radial actuator output
FO	55	focus actuator output
SL	56	sledge control output
V <sub>DD2(C)</sub>	57 <sup>(1)</sup>	digital supply voltage 3 for core
V <sub>SSD3</sub>	58 <sup>(1)</sup>	digital ground 4
MOTO1	59	motor output 1; versatile (3-state)
MOTO2	60	motor output 2; versatile (3-state)
V4	61	versatile output pin 4
V5	62	versatile output pin 5
V1	63	versatile intput pin 1
LDON	64	laser drive on output (open-drain)

Note : All supply pins must be connected to the same external power supply voltage.

**BLOCK DIAGRAM OF INTEGRATED CIRCUIT**

**IC 7400 TMP87CM23F**

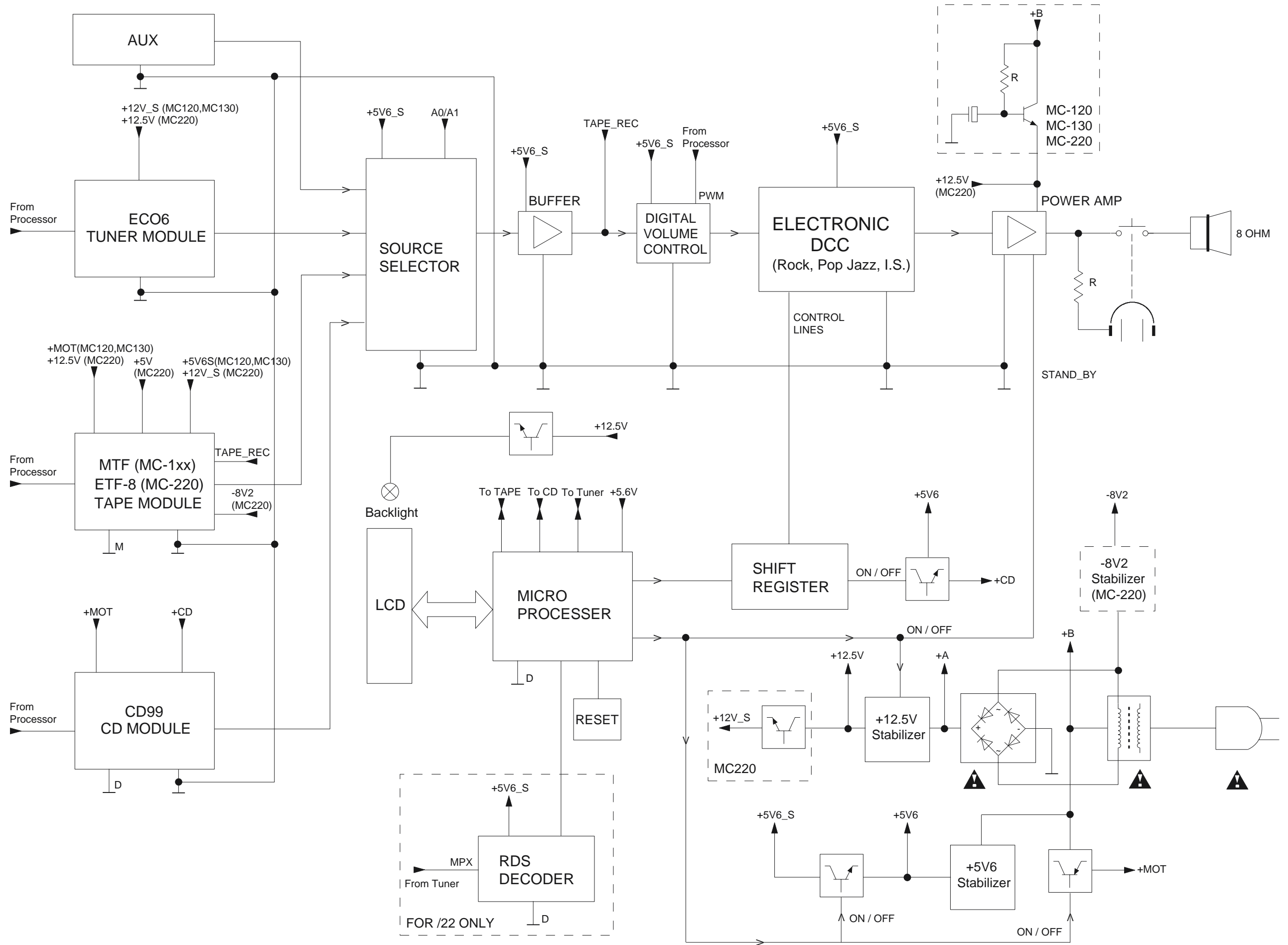


**PINS DESCRIPTION OF IC 7400 TMP87CM23F**

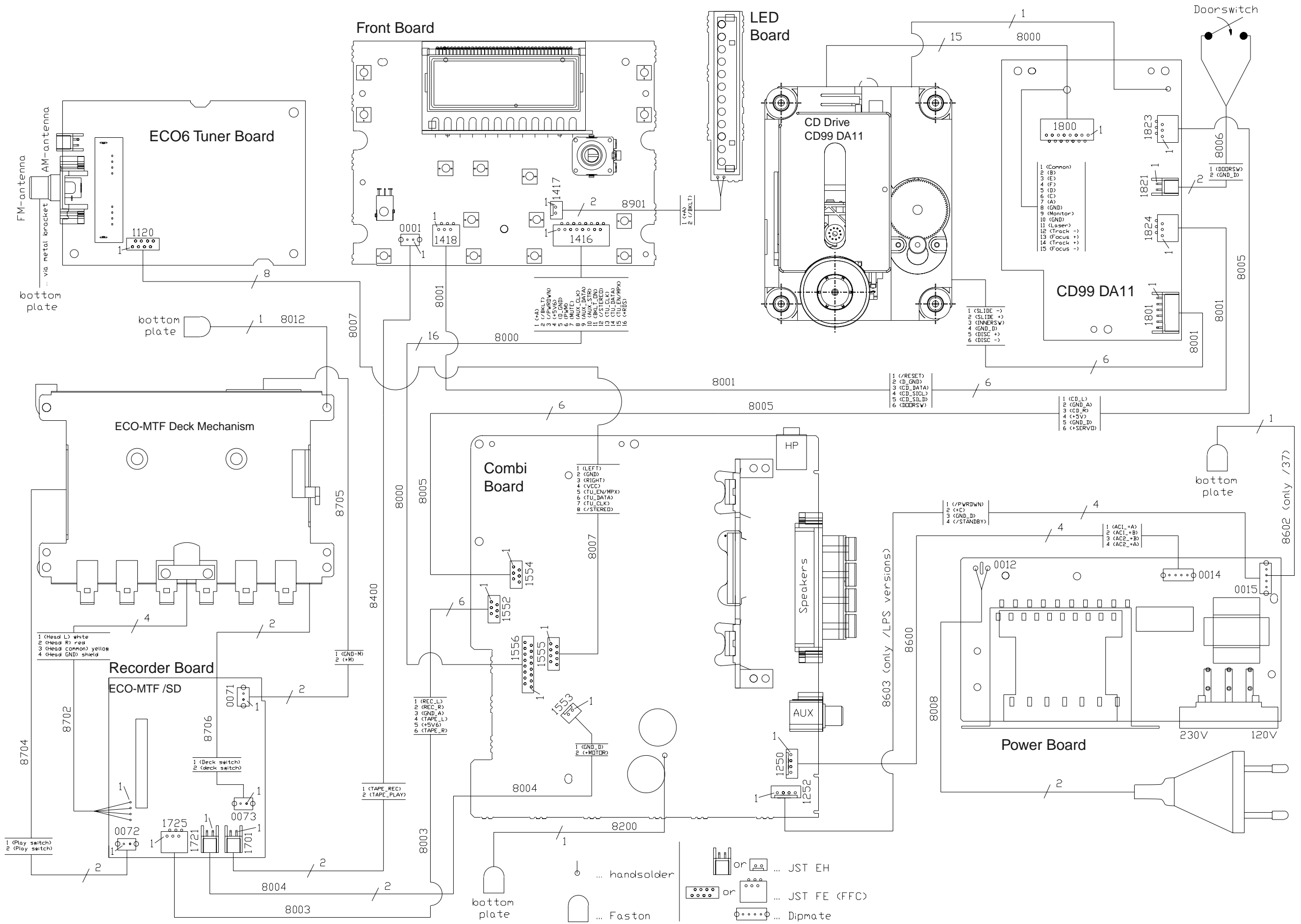
**PIN FUNCTION**

PIN NAME	Input / Output	FUNCTION
P07 to P00	I/O	8-bit programmable input/output ports (tri-state).
P17, P16	I/O	Timer/Counter 2 input
P15 (TC2)	I/O (Input)	Programmable pulse generator output
P14 (PPG)	I/O (Output)	Divider output
P13 (DVO)	I/O	External interrupt input 2 or Timer/Counter 1 input
P12 (INT2 / TC1)	I/O (Input)	When used as timer/counter in or external interrupt input, the latch must be set to "0". When used as PPG output or divider output, the latch must be set to "1".
P11 (INT1)	I/O (Input)	External interrupt input 1
P10 (INT0)	I/O (Input)	External interrupt input 0
P22 (XTOUT)	I/O (Output)	3-bit input/output port with latch. Resonator connecting pins (32.768kHz). For inputting external clock, XTIN is used and XTOUT is opened.
P21 (XTIN)	I/O (Input)	When used as an input port, the latch must be set to "1".
P20 (INT5 / STOP)	I/O (Input)	External interrupt input 5 or STOP mode release signal input
P36 to P30	I/O	7-bit input/output port with latch. When used as input port, the latch must be set to "1".
P47 (SO2)	I/O (Output)	SIO2 serial data output
P46 (SI2)	I/O (Input)	SIO2 serial data input
P45 (SCK2)	I/O (I/O)	When used as input port or a SIO input/output port, the latch must be set to "1". SIO2 serial clock input/output
P44 (SO1)	I/O (Output)	SIO1 serial data output
P43 (SI1)	I/O (Input)	SIO1 serial data input
P42 (SCK1)	I/O (I/O)	SIO1 serial clock input/output
P41 (PWM/PDO)	I/O (Output)	8-bit PWM output, 8-bit programmable divider output
P40 (INT3/TC3)	I/O (Input)	External interrupt input 3, Timer/Counter 3 input
P57 (AIN07) to P50 (AIN00)	I/O (Input)	8-bit programmable input/output port (tri-state). Each bit of the port can be individually configured as an input or an output under software control. When used as analog input, the latch must be set to "0".
SEG39 (P80) to SEG32 (P87)	Output (I/O)	8-bit input/output port with latch. LCD segment outputs. When used as segment output, the control register of P6, P7, P8 and P9 must be set to "1".
SEG31 (P70) to SEG24 (P77)	Output (I/O)	When used as an input port, the latch must be set to "1".
SEG23 (P60) to SEG16 (P67)	Output (I/O)	4-bit input/output port with latch. When used as an input port, the latch must be set to "1".
SEG15 (P90) to SEG12 (P93)	Output (I/O)	4-bit input/output port with latch. When used as an input port, the latch must be set to "1".
SEG11 to SEG0	Output	LCD segment outputs
COM3 to COM0	Output	LCD common outputs
XIN, XOUT	Input, Output	Resonator connecting pins for high-frequency clock. For inputting external clock, XIN is used and XOUT is opened.
RESET	I/O	Reset signal input or watchdog timer output/address-trap-reset output
TEST	Input	Test pin for out-going test. Be fixed to low.
VDD, VSS	Power Supply	+ 5 V, 0 V (GND)
VAREF, VASS	Power Supply	Analog reference voltage inputs (High, Low)
VLC	Power Supply	LCD drive power supply.

# SET BLOCK DIAGRAM

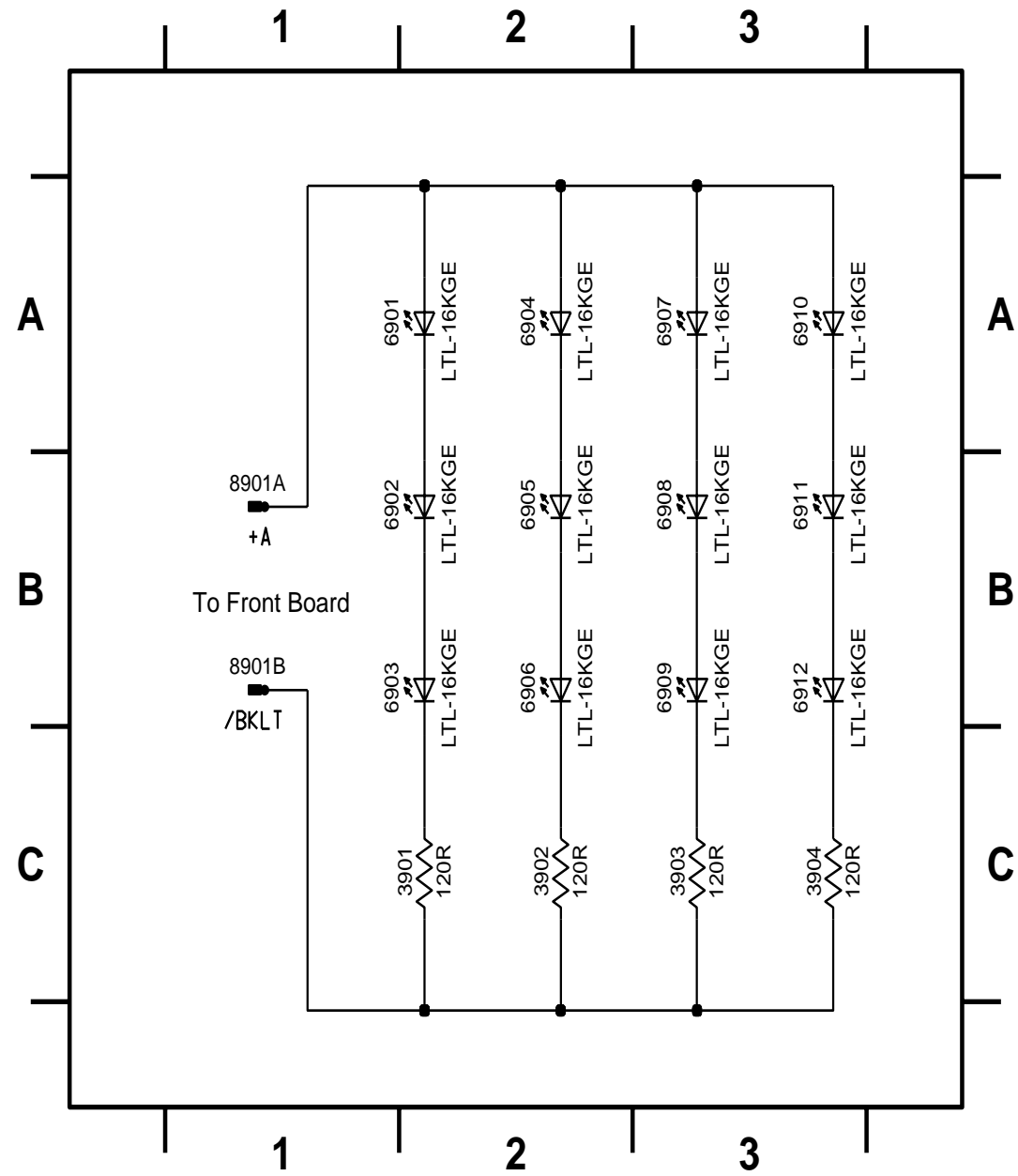


# SET WIRING DIAGRAM

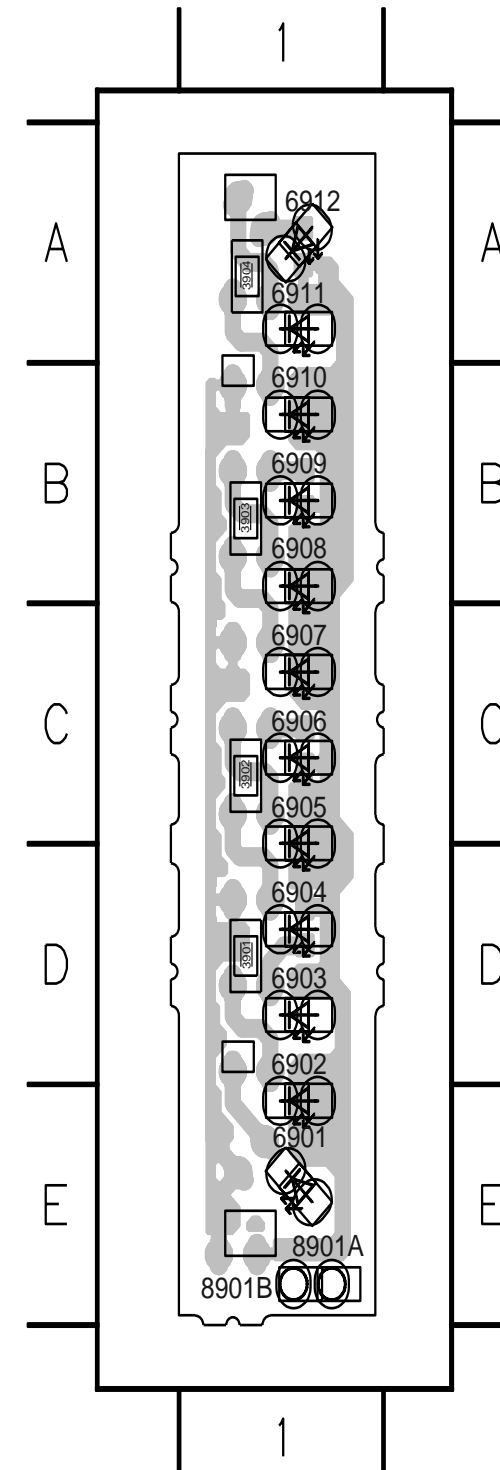


CIRCUIT DIAGRAM - LED BOARD

3901 C2	6902 B1	6907 A3	6912 B3
3902 C2	6903 B1	6908 B3	8901A B1
3903 C3	6904 A2	6909 B3	8901B B1
3904 C3	6905 B2	6910 A3	
6901 A1	6906 B2	6911 B3	

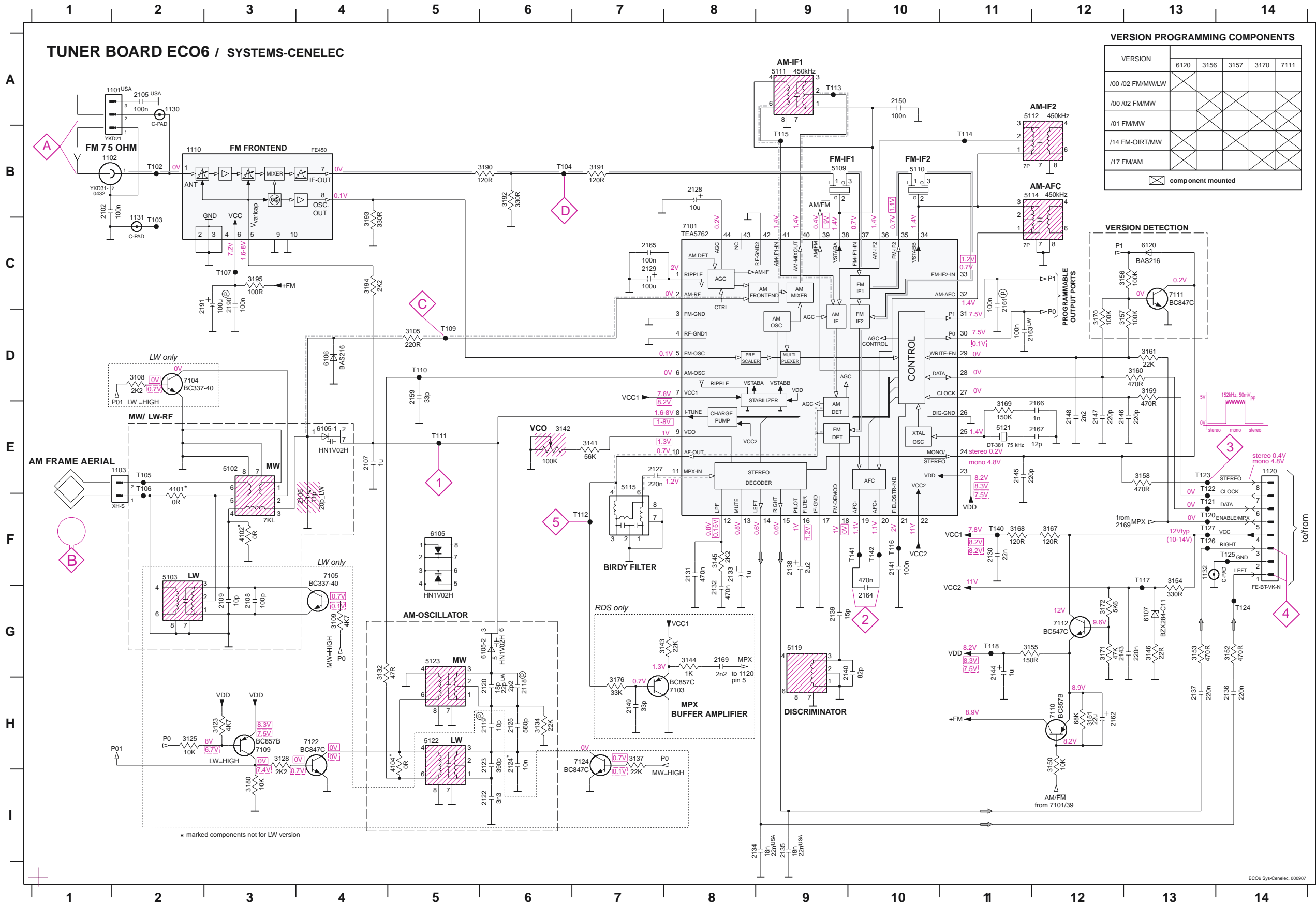


LAYOUT DIAGRAM - LED BOARD



3901	D1
3902	C1
3903	B1
3904	A1
6901	E1
6902	D1
6903	D1
6904	D1
6905	C1
6906	C1
6907	C1
6908	B1
6909	B1
6910	B1
6911	A1
6912	A1
8901A	E1
8901B	E1

# CIRCUIT DIAGRAM - ECO6 SYSTEM CENELEC BOARD



VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW	X	X	X	X	X
/00 /02 FM/MW	X	X	X	X	X
/01 FM/MW	X	X	X	X	X
/14 FM-OIRT/MW	X	X	X	X	X
/17 FM/AM	X	X	X	X	X

⊗ component mounted

### LEGEND

\* ... only assembled in FM/AM-version  
 (P) ... for provision only  
 USA ... for USA version only  
 LW ... for LW version only

SMD Jumper

...V FM mode stereo  
 ...V MW mode  
 ...V LW mode  
 voltages measured while set is tuned to a strong transmitter

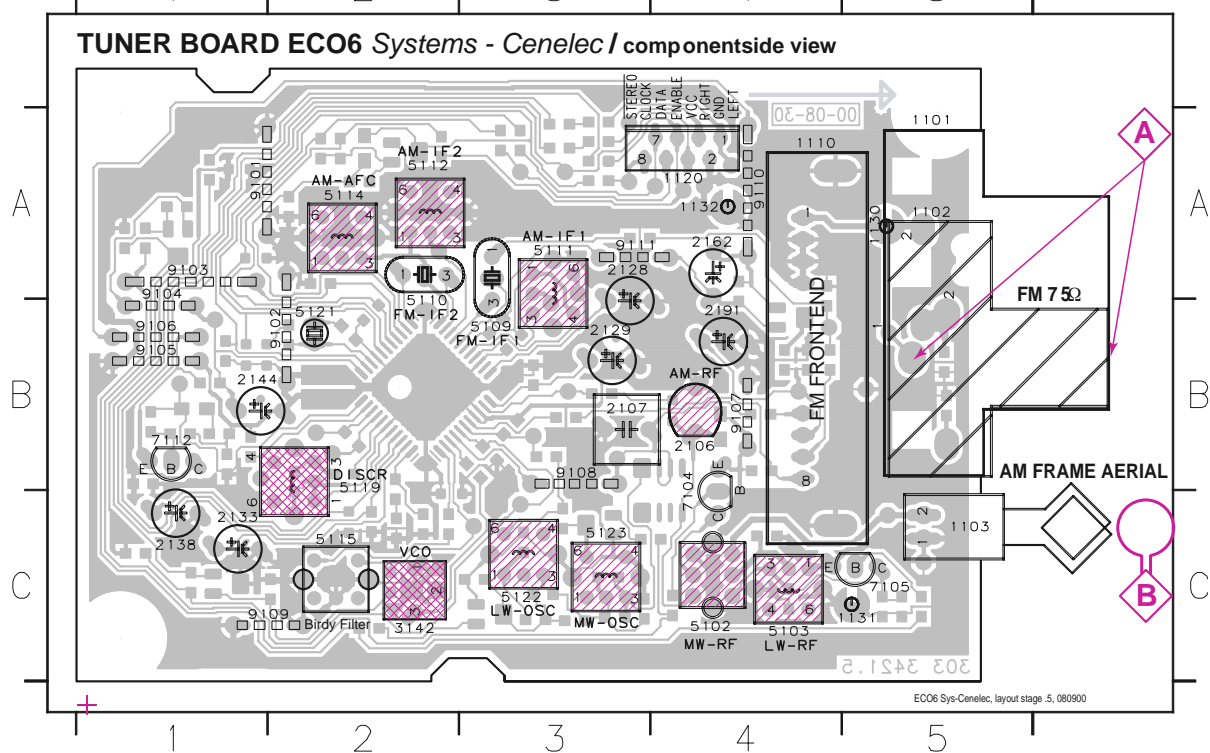
### Signal path

— FM  
 - - - AM  
 - - - MPX (Audio Frequency)  
 ⇨ AF - left/right

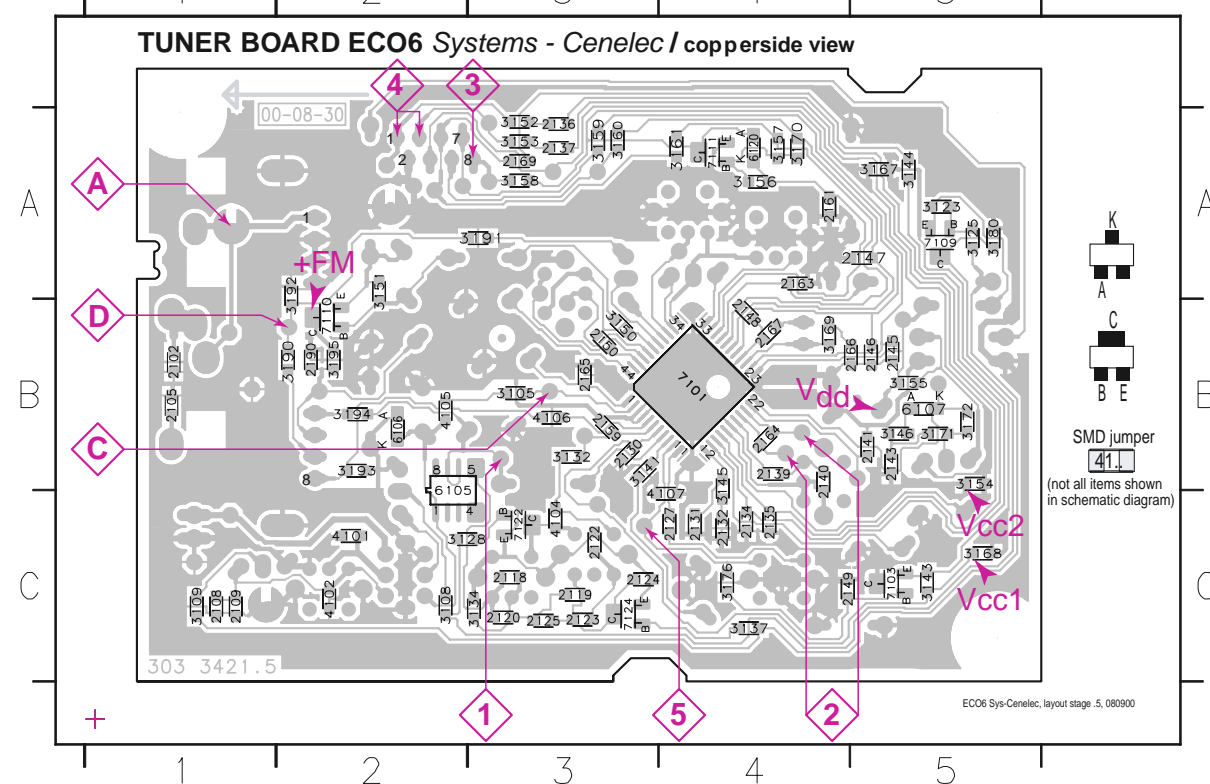
- 1101 A2
- 1102 B1
- 1103 E1
- 1110 B2
- 1120 E14
- 1130 A2
- 1131 C2
- 1132 F13
- 2102 B1
- 2105 A2
- 2106 E3
- 2107 E4
- 2108 G3
- 2109 G3
- 2118 H6
- 2119 H6
- 2120 H6
- 2122 I6
- 2123 H6
- 2124 H6
- 2125 H6
- 2127 E7
- 2128 B8
- 2129 C7
- 2130 F11
- 2131 F8
- 2132 F8
- 2133 F8
- 2134 I8
- 2135 I9
- 2136 H14
- 2137 H13
- 2138 F9
- 2139 G9
- 2140 G9
- 2141 F10
- 2143 G12
- 2144 G11
- 2145 E11
- 2146 E12
- 2147 E12
- 2148 E12
- 2149 H7
- 2150 A10
- 2159 D5
- 2161 C11
- 2162 H12
- 2163 D11
- 2164 G10
- 2165 C7
- 2166 E11
- 2167 E11
- 2169 G8
- 2190 C3
- 2191 C3
- 3105 D5
- 3108 D2
- 3109 G4
- 3123 H3
- 3128 H3
- 3132 G4
- 3134 H6
- 3137 H7
- 3141 E7
- 3142 E6
- 3143 G7
- 3144 G8
- 3145 F8
- 3146 G3
- 3150 H12
- 3151 H12
- 3152 G14
- 3153 G13
- 3154 F13
- 3155 G12
- 3156 C12
- 3157 D12
- 3158 E13
- 3159 D13
- 3160 D13
- 3161 D13
- 3167 F12
- 3168 F11
- 3169 E11
- 3170 D12
- 3171 G12
- 3172 G12
- 3176 H7
- 3180 I3
- 3190 B6
- 3191 B7
- 3192 B4
- 3193 B4
- 3194 C4
- 3195 C3
- 4101 E2
- 4102 F3
- 4104 H5
- 5102 E3
- 5103 F2
- 5109 B9
- 5110 B10
- 5111 A9
- 5112 A11
- 5114 B11
- 5115 E7
- 5119 G9
- 5121 E11
- 5122 H5
- 5123 G5
- 6105-1 E4
- 6106 D4
- 6107 G13
- 6120 C13
- 7101 C8
- 7103 H8
- 7104 D2
- 7105 F4
- 7109 H3
- 7110 H12
- 7111 C13
- 7112 G12
- 7122 H4
- 7124 H7
- 7125 B2
- 7126 B2
- 7104 B6
- 7105 E2
- 7106 E2
- 7107 C3
- 7109 D5
- 7110 D5
- 7111 E5
- 7112 F7
- 7113 A9
- 7114 B11
- 7116 F10
- 7117 F13
- 7118 G11
- 7120 F13
- 7121 F13
- 7122 E13
- 7123 G13
- 7124 G14
- 7125 F14
- 7126 F13
- 7127 F13
- 7140 F11
- 7141 F10
- 7142 F10

LAYOUT DIAGRAM - ECO6 SYSTEM CENELEC BOARD

1101 B5 1110 B4 1131 C5 2107 B3 2133 C1 2162 A4 5102 C4 5110 A2 5114 A2 5121 B2 7104 C4 9101 A2 9104 B1 9107 B4 9110 A4  
 1102 B5 1120 A4 1132 A4 2128 A3 2138 B1 2191 B4 5103 C4 5111 A3 5115 C2 5122 C3 7105 C5 9102 B2 9105 B1 9108 B3 9111 A3  
 1103 C5 1130 A5 2106 B4 2129 B3 2144 B1 3142 C2 5109 B3 5112 A2 5119 B2 5123 C3 7112 B1 9103 A1 9106 B1 9109 C2



2102 B1 2120 C3 2130 B3 2137 A3 2146 B5 2161 A4 2169 A3 3125 A5 3143 C5 3152 A3 3158 A3 3169 B4 3190 B2 4101 C2 6105 B2 7109 A5  
 2105 B1 2122 C3 2131 C4 2139 B4 2147 A5 2163 A4 2190 B2 3128 C2 3144 A5 3153 A3 3159 A3 3170 A4 3191 A3 4102 C2 6106 B2 7110 B2  
 2108 C1 2123 C3 2132 C4 2140 B4 2148 B4 2164 B4 3105 B3 3132 B3 3145 C4 3154 B5 3160 A3 3171 B5 3192 A2 4104 C3 6107 B5 7111 A4  
 2109 C1 2124 C3 2134 C4 2141 B5 2149 C4 2165 B3 3108 C2 3134 C3 3146 B5 3155 B5 3161 A4 3172 B5 3193 B2 4105 B2 6120 A4 7122 C3  
 2118 C3 2125 C3 2135 C5 2143 B5 2150 B3 2166 B5 3109 C1 3137 C4 3150 B3 3156 A4 3167 A5 3176 C4 3194 B2 4106 B3 7101 B4 7124 C3  
 2119 C3 2127 C4 2136 A3 2145 B5 2159 B3 2167 B4 3123 A5 3141 B3 3151 A2 3157 A4 3168 C5 3180 A5 3195 B2 4107 C4 7103 C5



These assembly drawings show a summary of all possible versions.  
 For components used in a specific version see schematic diagram respectively partslist.

TUNER ADJUSTMENT TABLE ( ECO6 Cenelec FM/MW - and FM/MW/LW - versions with AM-frame aerial )

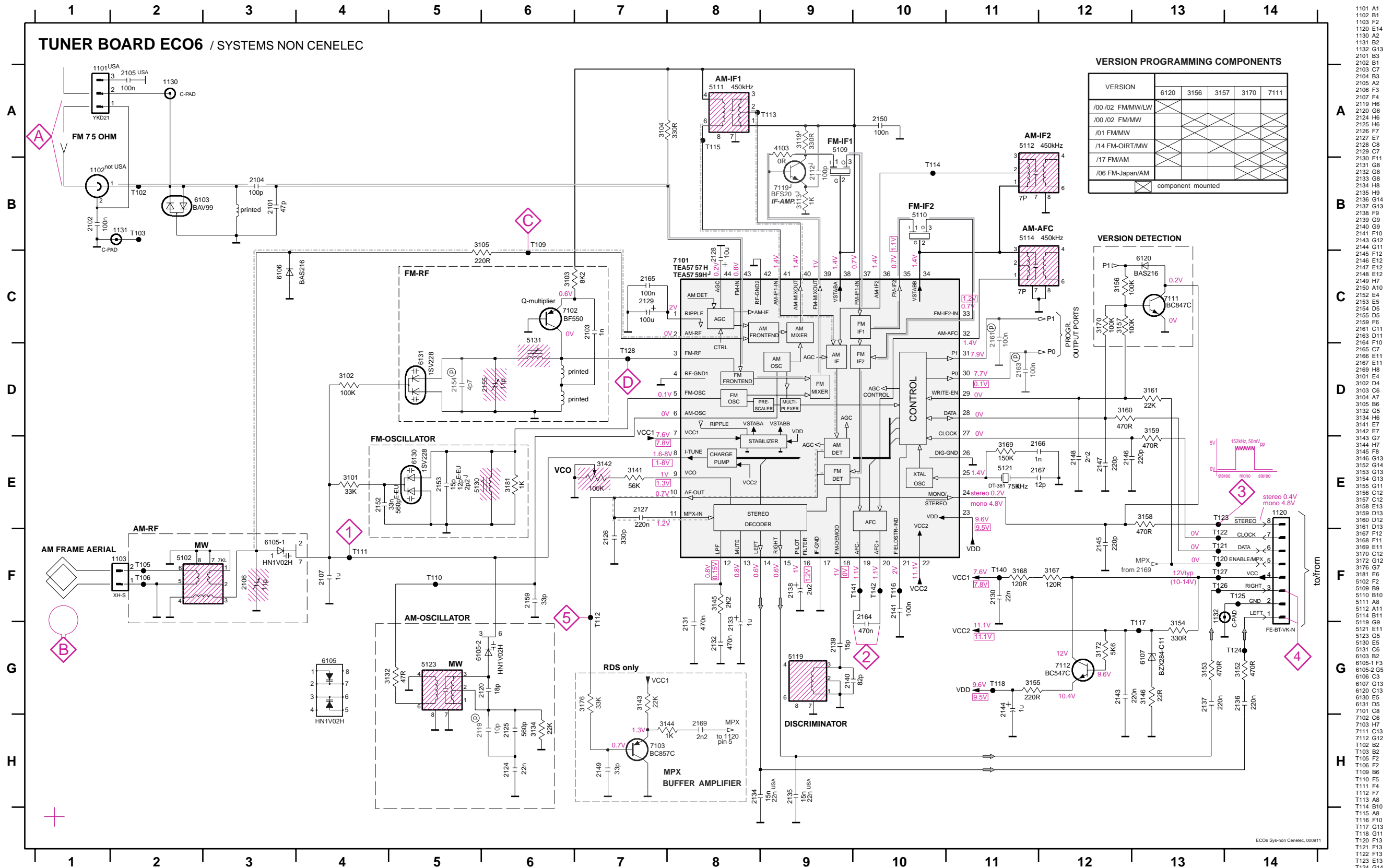
Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/ Voltmeter
<b>VARICAP ALIGNMENT</b>						
<b>FM</b> 87.5 - 108MHz (50kHz grid)			108MHz	check		8V ±1.2V
			87.5MHz	check		1.6V ±0.5V
<b>MW</b> 531 - 1602kHz (9kHz grid)			1602kHz	5123	1	8V ±0.2V 3-band 6.9V ±0.2V 2-band
			531kHz	check		1.1V ±0.4V
<b>LW</b> 153 - 279kHz (3kHz grid)			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
<b>FM - IF</b>						
<b>FM</b>	10.7MHz, 45mV continuous wave	D		5119	2	0mV ±3mV
<b>FM - VCO</b>						
<b>FM</b>	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz <sup>1)</sup>
<b>FM RF (channel separation)</b> Note: The FM-frontend unit has already been adjusted by the factory and needs therefore no further adjustments for service purposes.						
<b>FM</b>	98MHz, 1mV 90% Left + 9% pilot mod=1kHz	A	98MHz	IF coil inside FM frontend 1110	4	right channel min.
<b>AM IF</b>						
<b>MW</b>	450kHz  connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C  $\Delta f = \pm 10\text{kHz}$ $V_{RF} = 0.5\text{mV}$ (as low as possible)		5111	5	
				5112		
<b>AM AFC</b> <b>MW</b>		C continuous wave $V_{RF} = 2\text{mV}$		5114	2	0mV ±2mV
<b>AM RF<sup>3)</sup></b>						
<b>MW</b>	1494kHz	B	1494kHz	2106	5	
	558kHz		558kHz	5102		
<b>LW</b>	198kHz	$\Delta f = \pm 30\text{kHz}$ $V_{RF}$ as low as possible	198kHz	5103		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

- 1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
- 2) RC network serves for damping the IF-filter while adjusting the other one.
- 3) For AM RF adjustments the original frame antenna has to be used!  
MW has to be aligned before LW.

↑ Repeat

CIRCUIT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD



1101 A1  
 1102 B1  
 1103 F2  
 1120 E14  
 1130 A2  
 1131 B2  
 1132 G13  
 2101 B3  
 2102 B1  
 2103 C7  
 2104 B3  
 2105 A2  
 2106 F3  
 2107 F4  
 2119 H6  
 2120 G6  
 2124 H6  
 2125 H6  
 2126 F7  
 2127 E7  
 2128 C6  
 2129 C7  
 2130 F11  
 2131 G8  
 2132 G8  
 2133 G8  
 2134 H8  
 2135 H9  
 2136 G14  
 2137 G13  
 2138 F9  
 2139 G9  
 2140 G9  
 2141 F10  
 2143 G12  
 2144 G11  
 2145 F12  
 2146 E12  
 2147 E12  
 2148 E12  
 2149 H7  
 2150 A10  
 2152 E4  
 2153 E5  
 2154 D5  
 2155 D5  
 2159 F6  
 2161 C11  
 2163 D11  
 2164 F10  
 2165 C7  
 2166 E11  
 2167 E11  
 2169 H8  
 3101 E4  
 3102 D4  
 3103 C6  
 3104 A7  
 3105 B6  
 3132 G5  
 3134 H6  
 3141 E7  
 3142 E7  
 3143 G7  
 3144 H7  
 3145 F8  
 3146 G13  
 3152 G14  
 3153 G13  
 3154 G13  
 3155 G11  
 3156 C12  
 3157 C12  
 3158 E13  
 3159 D13  
 3160 D12  
 3161 D13  
 3167 F12  
 3168 F11  
 3169 E11  
 3170 C12  
 3172 C12  
 3176 E6  
 3181 E6  
 5102 F2  
 5109 B9  
 5110 B10  
 5111 A8  
 5112 A11  
 5114 B11  
 5119 G9  
 5121 E11  
 5123 G5  
 5130 E5  
 5131 C6  
 6103 B2  
 6105-1 F3  
 6105-2 G5  
 6106 C3  
 6107 G13  
 6120 C13  
 6120 E5  
 6131 D5  
 7101 C8  
 7102 C6  
 7103 H7  
 7111 C13  
 7112 G12  
 T102 B2  
 T103 B2  
 T105 F2  
 T106 F2  
 T109 B6  
 T110 F5  
 T111 F4  
 T112 F7  
 T113 A8  
 T114 B10  
 T115 A8  
 T116 F10  
 T117 G13  
 T118 G11  
 T120 F13  
 T121 F13  
 T122 F13  
 T123 E13  
 T124 G14  
 T125 F14  
 T126 F13  
 T127 F13  
 T128 D7  
 T140 F11  
 T141 F10  
 T142 F10

**LEGEND**  
 (D) ...for provision only  
 USA . .for USA version only  
 E-EU . .for East European version only  
 J . .for Japanese version only

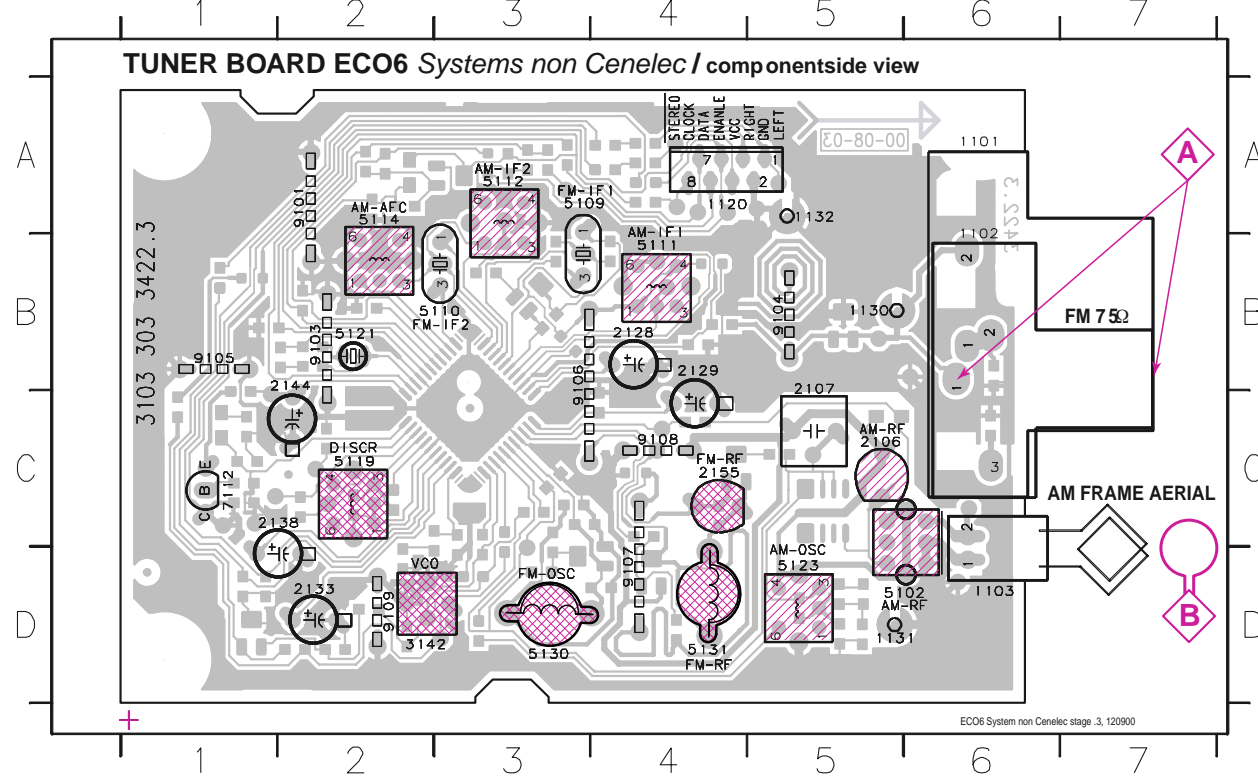
...V FM mode stereo  
 ...V MW mode  
 ...V LW mode  
 voltages measured while set is tuned to a strong transmitter

**Signal path**  
 — FM  
 - - - AM  
 - - - MPX (Audio Frequency)  
 ⇄ AF - left/right

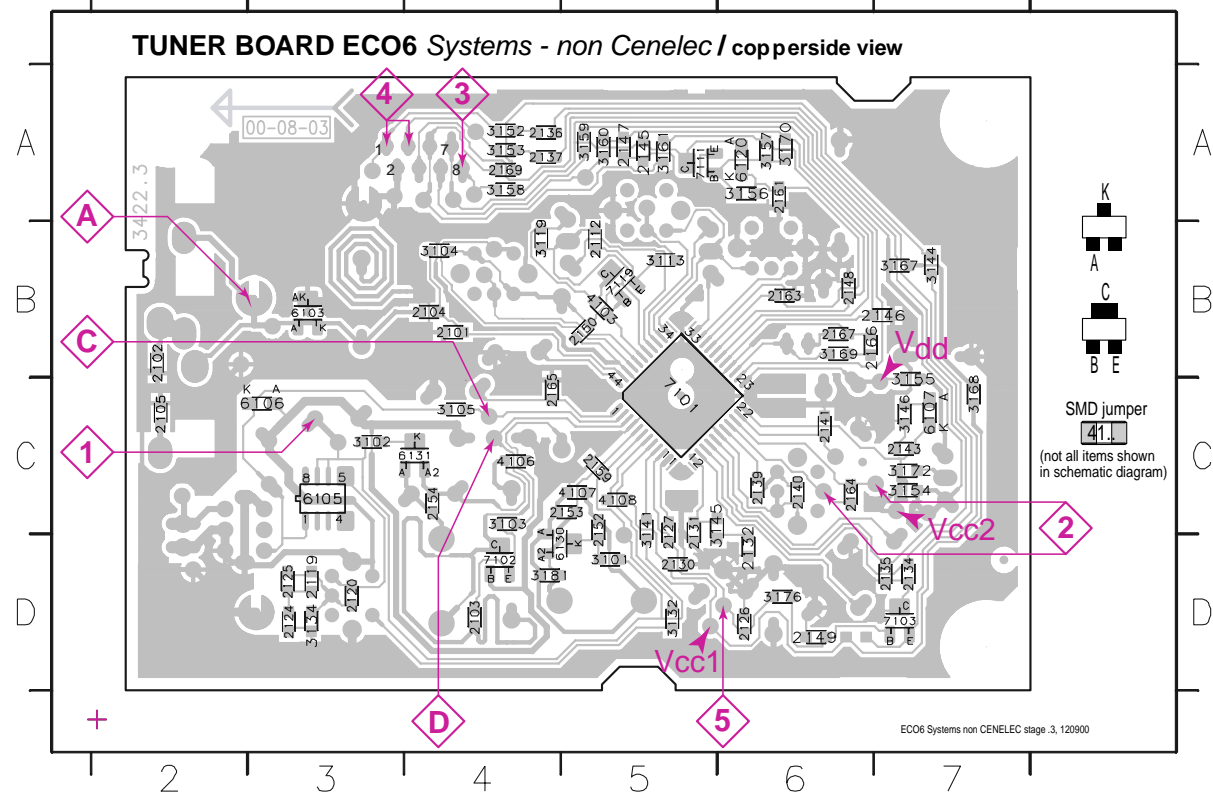


LAYOUT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD

1101 A6 1120 A4 1132 A5 2128 C4 2138 C2 3142 D2 5110 B3 5114 A2 5123 D5 7112 C1 9104 B5 9107 D4  
 1102 B6 1130 B5 2106 C5 2129 B4 2144 B2 5102 D6 5111 B4 5119 C2 5130 D3 9101 A2 9105 B1 9108 C4  
 1103 D6 1131 D5 2107 B5 2133 D2 2155 C4 5109 A3 5112 A3 5121 B2 5131 D4 9103 B2 9106 B3 9109 D2



2101 B4 2119 D3 2130 D5 2137 A4 2146 B7 2153 C5 2165 C4 3103 C4 3134 D3 3152 A4 3158 A4 3169 B6 4106 C4 6107 C7 7103 D7  
 2102 B1 2120 D3 2131 C5 2139 C6 2147 A5 2154 C4 2166 B6 3104 B4 3141 C5 3153 A4 3159 A5 3170 A6 4107 C5 6120 A6 7111 A5  
 2103 D4 2124 D3 2132 D6 2140 C6 2148 B6 2159 C5 2167 B6 3105 C4 3143 D6 3154 C7 3160 A5 3172 C7 4108 C5 6130 D4 7119 B5  
 2104 B4 2125 D3 2134 D7 2141 C6 2149 D6 2161 A6 2169 A4 3113 B5 3144 B7 3155 C7 3161 A5 3176 D6 6103 B3 6131 C4  
 2105 C1 2126 D6 2135 D7 2143 C7 2150 B5 2163 B6 3101 D5 3119 B5 3145 C5 3156 A6 3167 B7 3181 D4 6105 C3 7101 C5  
 2112 B5 2127 C5 2136 A4 2145 A5 2152 C5 2164 C6 3102 C3 3132 D5 3146 C7 3157 A6 3168 C7 4103 B5 6106 C3 7102 D4



These assembly drawings show a summary of all possible versions.  
 For components used in a specific version see schematic diagram respectively partlist.

TUNER ADJUSTMENT TABLE ( ECO6 FM/MW- and FM/MW/LW - versions with AM-frame aerial )

Waverange	Input f requency	Input	Tuned to	Adj ust	Output	Scope/ Voltmeter
<b>VARICAP ALIGNMENT</b>						
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130		8V ±0.2V
			87.5MHz (65.81MHz)	check		4.3V ±0.5V (1.2V ±0.5V)
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123	1	8V ±0.2V
			530kHz	check		1.1V ±0.4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123		6.9V ±0.2V
			531kHz	check		1.1V ±0.4V
<b>LW</b> 153 - 279kHz			279kHz	5122	8V ±0.2V	
			153kHz	check	1.1V ±0.4V	
<b>MW</b> FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123	8V ±0.2V	
			531kHz	check	1.1V ±0.4V	
<b>FM IF</b>						
<b>FM</b>	10.7MHz, 45mV continuous wave	D		5119	2	0 ± 3 mV DC
<b>FM RF</b>						
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	A	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)	mod=1kHz Δf=±22.5kHz	87.5MHz (65.81MHz)	5131		
<b>VCO</b>						
<b>FM</b>	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz <sup>1)</sup>
<b>AM IF</b>						
<b>MW</b>	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C Δf=±10kHz V <sub>RF</sub> = 0.5mV (as low as possible)		5111	5	
				5112		
<b>AM AFC</b>		C		5114	2	0 ± 2 mV DC
<b>AM RF<sup>3)</sup></b>						
<b>MW<sup>4)</sup></b> FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	B	1494kHz	2106	5	
	558kHz		558kHz	5102		
<b>LW</b>	198kHz		198kHz	5103		
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz	Δf = ±30kHz V <sub>RF</sub> as low as possible	1500kHz	2106		
	560kHz		560kHz	5102		

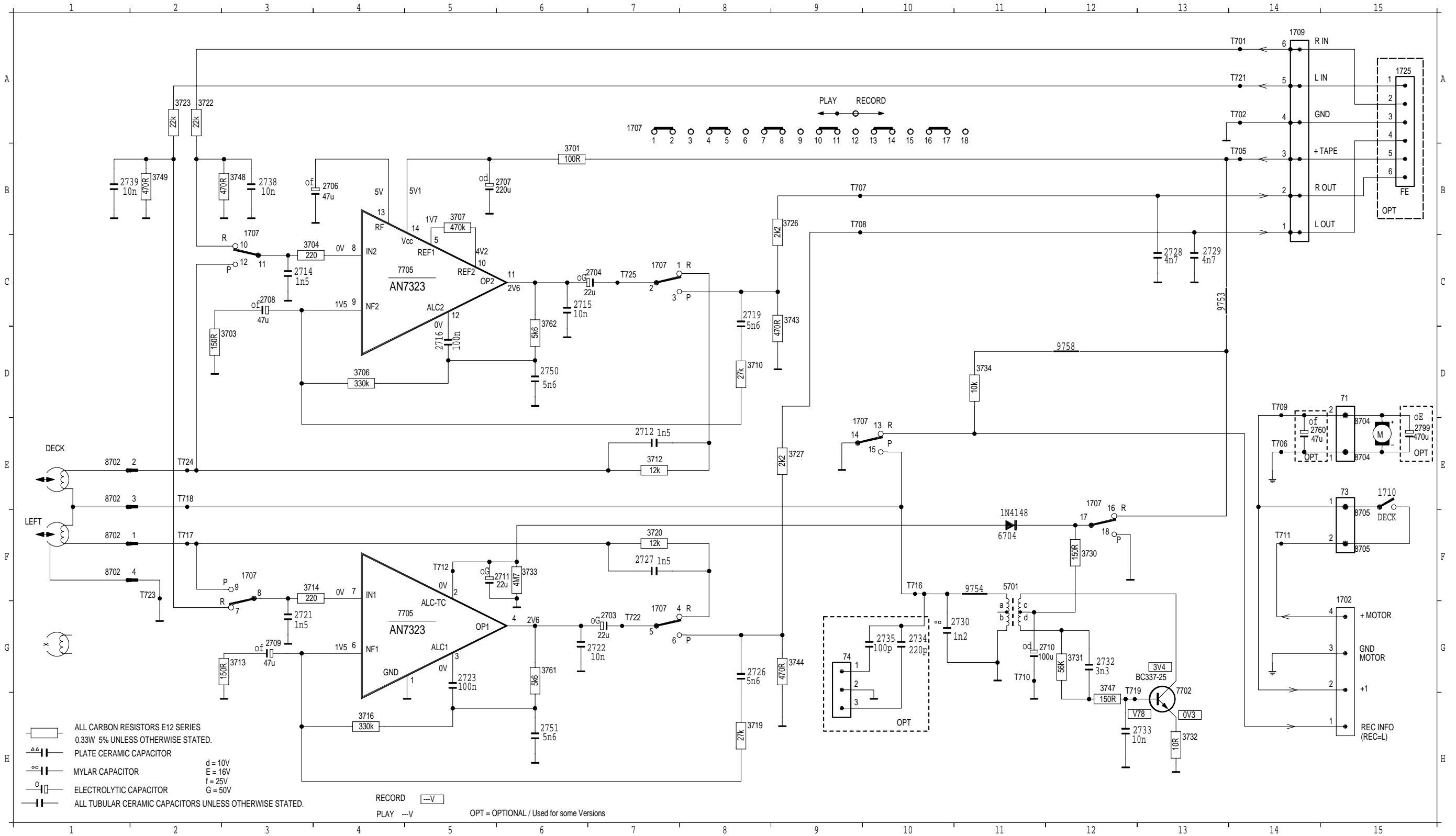
Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

- <sup>1)</sup> If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
- <sup>2)</sup> RC network serves for damping the IF-filter while adjusting the other one.
- <sup>3)</sup> For AM RF adjustments the original frame antenna has to be used !
- <sup>4)</sup> MW has to be aligned before LW.

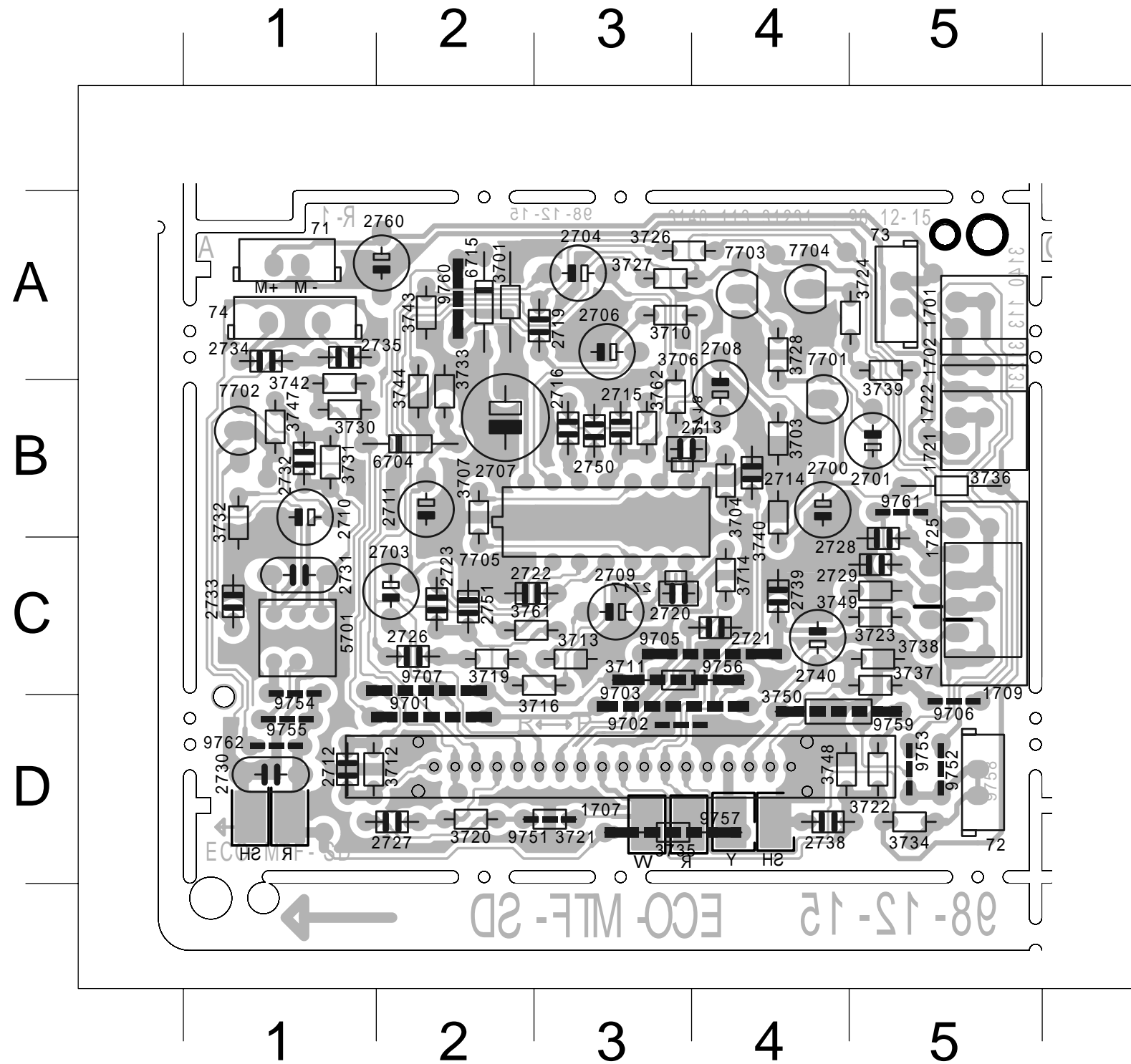
↑ Repeat

# CIRCUIT DIAGRAM - MTF BOARD

71	D15	1707	C 3	1709	A14	2706	B 4	2711	F 6	2719	C 8	2727	F 7	2733	H13	2750	D 6	3703	D 3	3712	E 7	3720	F 7	3730	F12	3743	C 9	3761	G 6	7705	G 4	8702	E 1	9753	C13	T705	B14	T710	G11	T718	E 2	T724	E 2		
73	E15	1707	G 7	1710	E15	2707	B 6	2712	F 7	2721	G 3	2728	C13	2734	G10	2751	H 6	3704	C 3	3713	G 3	3722	A 2	3731	G12	3744	G 9	3762	D 6	7705	G 4	8704	E15	9754	F11	T706	E14	T711	H14	T719	H13	T725	C 7		
74	G 9	1707	C 7	1725	A15	2708	C 3	2714	C 3	2722	G 7	2729	C13	2735	G10	2760	E14	3706	D 4	3714	F 3	3723	F 6	3732	H13	3747	G12	5701	F11	8702	F 1	9758	D12	T707	B10	T712	F 5	T721	A14						
1702	G15	1707	E 9	2703	G 7	2709	G 3	2715	C 6	2723	G 5	2730	G11	2738	B 3	2799	E15	3707	B 5	3716	H 4	3726	B 9	3733	F 6	3748	B 3	6704	F11	8702	F 1	9705	F15	T701	A14	T708	B10	T716	F10	T722	G 7				
1707	F 3	1707	E12	2704	C 7	2710	G12	2716	D 5	2726	G 8	2732	G12	2739	B 1	3701	B 6	3710	D 8	3719	H 8	3727	E 9	3734	D11	3749	B 2	7702	H13	8702	E 1	9705	F15	T702	A14	T709	D14	T717	F 2	T723	F 2				



LAYOUT DIAGRAM - MTF BOARD



- 71 A 1
- 72 D 5
- 73 A 5
- 74 A 1
- 1701 A 5
- 1702 B 5
- 1707 D 3
- 1709 C 5
- 1721 B 5
- 1722 B 5
- 1725 C 5
- 2700 B 4
- 2701 B 5
- 2703 C 2
- 2704 A 3
- 2706 A 3
- 2707 B 2
- 2708 B 4
- 2709 C 3
- 2710 B 1
- 2711 B 2
- 2712 D 1
- 2713 B 3
- 2714 B 4
- 2715 B 3
- 2716 B 3
- 2717 C 3
- 2718 B 3
- 2719 A 3
- 2720 C 3
- 2721 C 4
- 2722 C 2
- 2723 C 2
- 2726 C 2
- 2727 D 2
- 2728 C 5
- 2729 C 5
- 2730 D 1
- 2731 C 1
- 2732 B 1
- 2733 C 1
- 2734 A 1
- 2735 A 1
- 2738 D 4
- 2739 C 4
- 2740 C 4
- 2750 B 3
- 2751 C 2
- 2760 A 2
- 3701 A 2
- 3703 B 4
- 3704 B 4
- 3706 B 3
- 3707 B 2
- 3710 A 3
- 3711 C 3
- 3712 D 1
- 3713 C 3
- 3714 C 4
- 3716 C 3
- 3719 C 2
- 3720 D 2
- 3721 D 3
- 3722 D 5
- 3723 C 5
- 3724 A 5
- 3726 A 3
- 3727 A 3
- 3728 A 4
- 3730 B 1
- 3731 B 1
- 3732 B 1
- 3733 B 2
- 3734 D 5
- 3735 D 3
- 3736 B 5
- 3737 C 5
- 3738 C 5
- 3739 A 5
- 3740 B 4
- 3742 B 1
- 3743 A 2
- 3744 B 2
- 3747 B 1
- 3748 D 4
- 3749 C 5
- 3750 D 4
- 3761 C 2
- 3762 B 3
- 5701 C 1
- 6704 B 2
- 6715 A 2
- 7701 B 4
- 7702 B 1
- 7703 A 4
- 7704 A 4
- 7705 B 3
- 9701 D 2
- 9702 D 3
- 9703 D 3
- 9705 C 4
- 9706 D 5
- 9707 C 2
- 9751 D 3
- 9752 D 5
- 9753 D 5
- 9754 C 1
- 9755 D 1
- 9756 C 3
- 9757 D 3
- 9759 D 4
- 9760 A 2
- 9761 B 5
- 9762 D 1
- T701 C 5
- T702 C 5
- T705 B 5
- T706 B 5
- T709 A 5
- T710 C 1
- T711 B 5
- T712 C 2
- T713 A 5
- T714 D 5
- T715 D 5
- T716 D 1
- T719 B 1
- T720 A 5
- T721 C 5
- T722 C 2
- T725 D 2
- T7707 A 4
- T7708 A 4

CASSETTE ADJUSTMENT

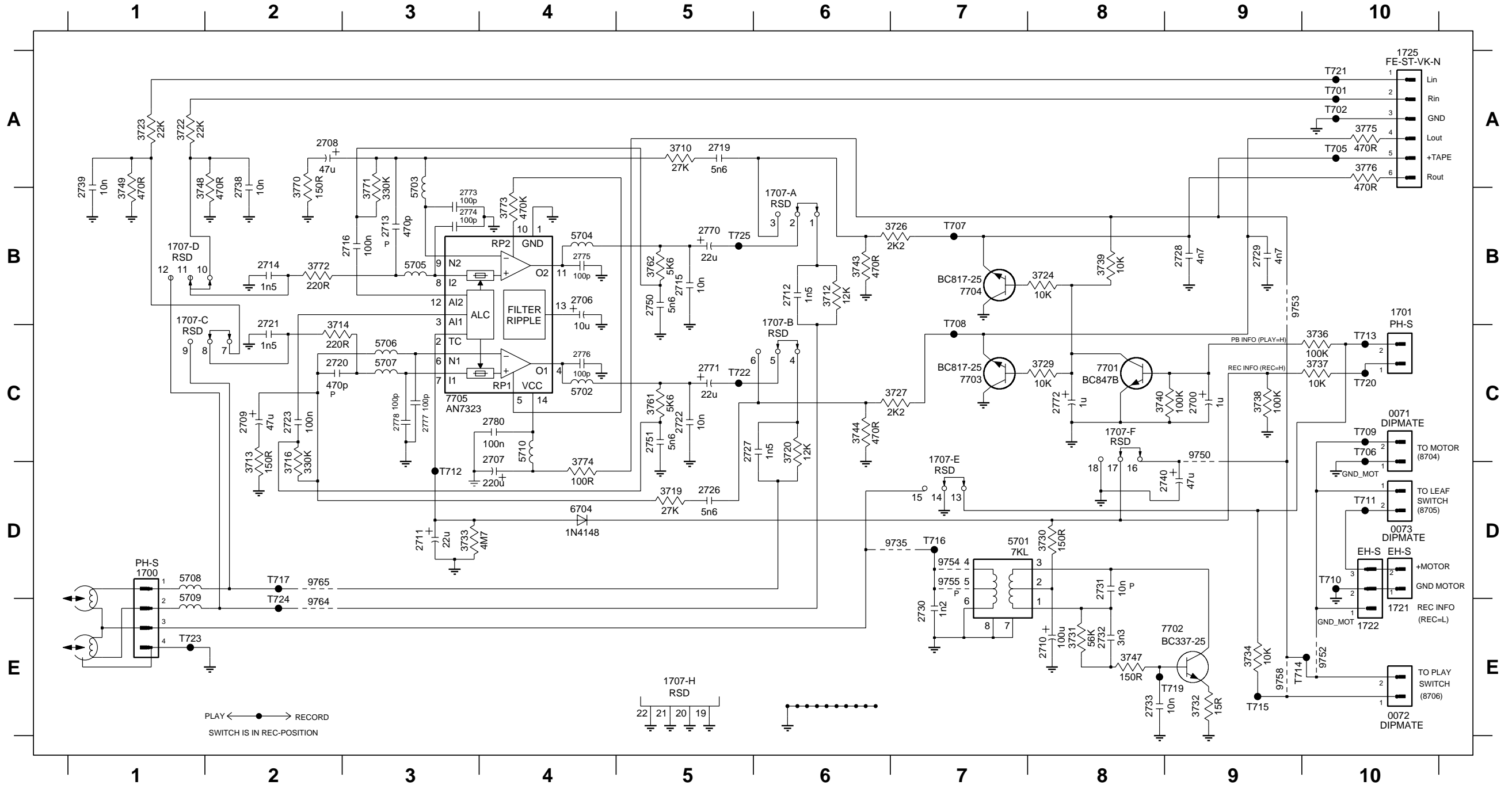
Adjustment	Cassette	SK ....	Deck 1	Measure on	Read on	Adjust with	Adjust to
Azimuth	10 kHz SBC420*	Tape	Play	H/P Jack	mV meter	Left hand Screw R/P head	max.
Motor Speed	3150 kHz SBC420*	Tape	Play	H/P Jack	Wow and flutter meter	Preset in motor	**a

\* SBC420 : 4822 397 30071

\*\*a The maximum permissible speed deviation is - 3%.  
Moreover, the wow and flutter value can be read.

CIRCUIT DIAGRAM - MTF BOARD(FOR /22 ONLY)

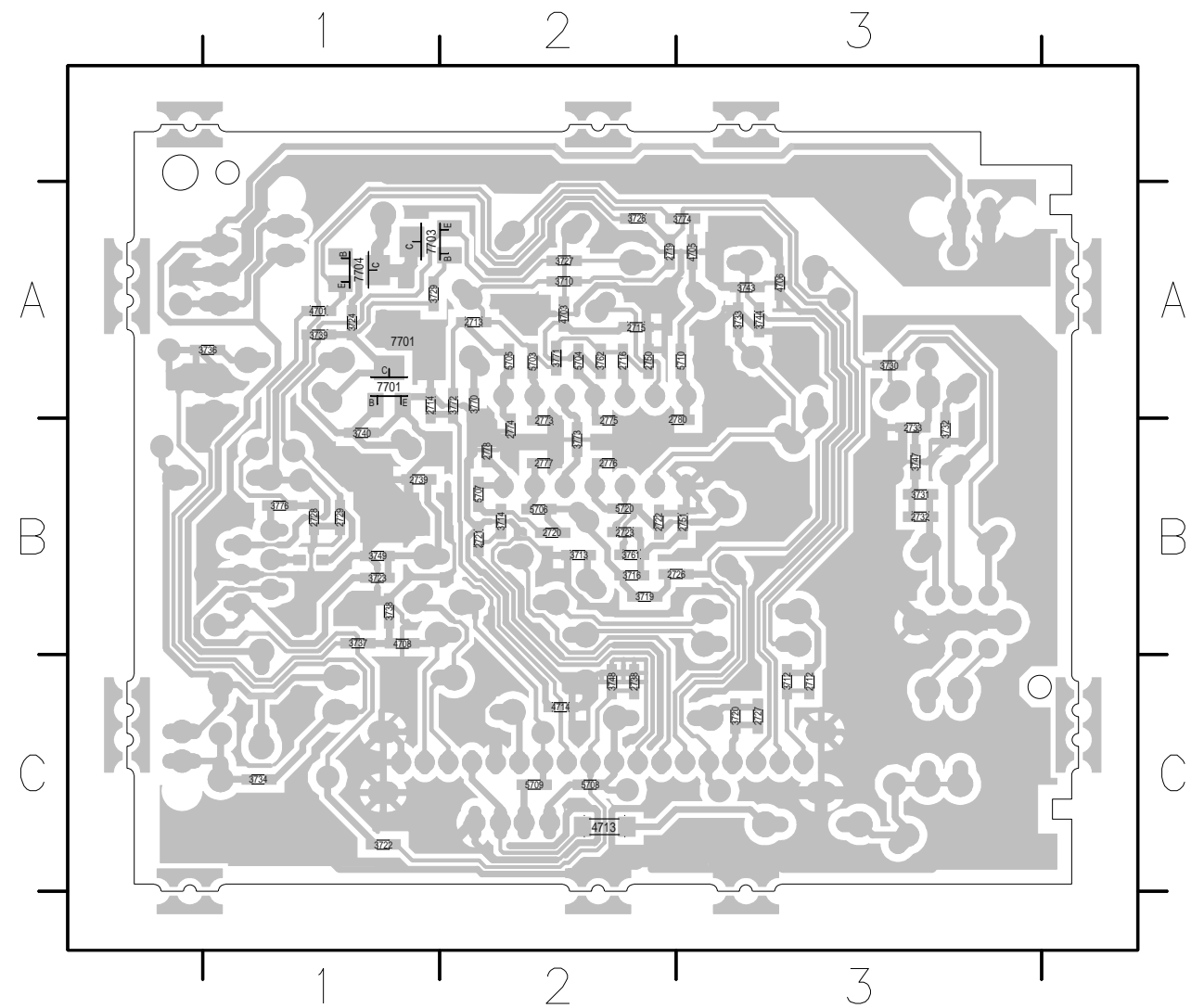
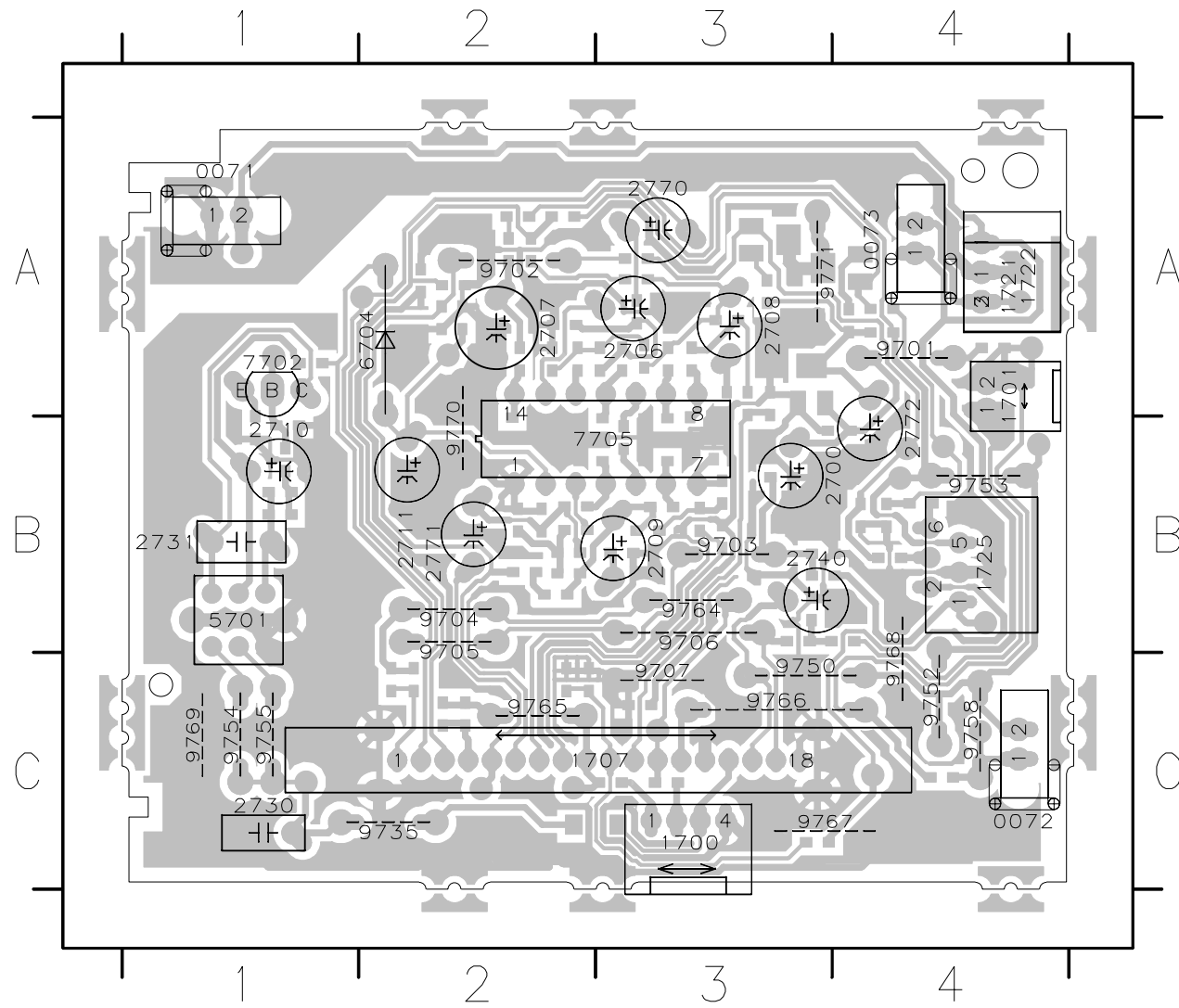
0071 C10	1707-C B1	1725 A10	2711 D3	2720 C2	2729 B9	2740 D9	2774 B3	3712 B6	3723 A1	3732 E9	3740 C8	3762 B5	3776 A10	5707 C3	7703 C7	9754 D7	T705 A10	T712 D3	T720 C10
0072 E10	1707-D B1	2700 C9	2712 B6	2721 C2	2730 E7	2750 B5	2775 B4	3713 D2	3724 B8	3733 D3	3743 B6	3770 A2	5701 D8	5708 D1	7704 B7	9755 D7	T706 C10	T713 C10	T721 A10
0073 D10	1707-E D7	2706 B4	2713 B3	2722 C5	2731 D8	2751 C5	2776 C4	3714 C2	3726 B7	3734 E9	3744 C6	3771 B3	5702 C4	5709 E1	7705 C3	9758 E9	T707 B7	T714 E9	T722 C5
1700 D1	1707-F C8	2707 C4	2714 B2	2723 C2	2732 E8	2770 B5	2777 C3	3716 D2	3727 C7	3736 C10	3747 E8	3772 B2	5703 A3	5710 C4	7706 C7	9764 E2	T708 C7	T715 E9	T723 E1
1701 B10	1707-H E5	2708 A2	2715 B5	2726 D5	2733 E8	2771 C5	2778 C3	3719 D5	3729 C8	3737 C10	3748 B1	3773 B4	5704 B4	6704 D4	9750 C9	9765 D2	T709 C10	T716 D7	T724 E2
1707-A B6	1721 E10	2709 C2	2716 B3	2727 C5	2738 A2	2772 C8	2780 C4	3720 C6	3730 D8	3738 C9	3749 B1	3774 D4	5705 B3	7701 C8	9752 E10	T701 A10	T710 D10	T717 D2	T725 B5
1707-B C6	1722 E10	2710 E8	2719 A5	2728 B9	2739 A1	2773 B3	3710 A5	3722 A1	3731 E8	3739 B8	3761 C5	3775 A10	5706 C3	7702 E8	9753 B9	T702 A10	T711 D10	T719 E9	



LAYOUT DIAGRAM - MTF BOARD(FOR /22 ONLY)

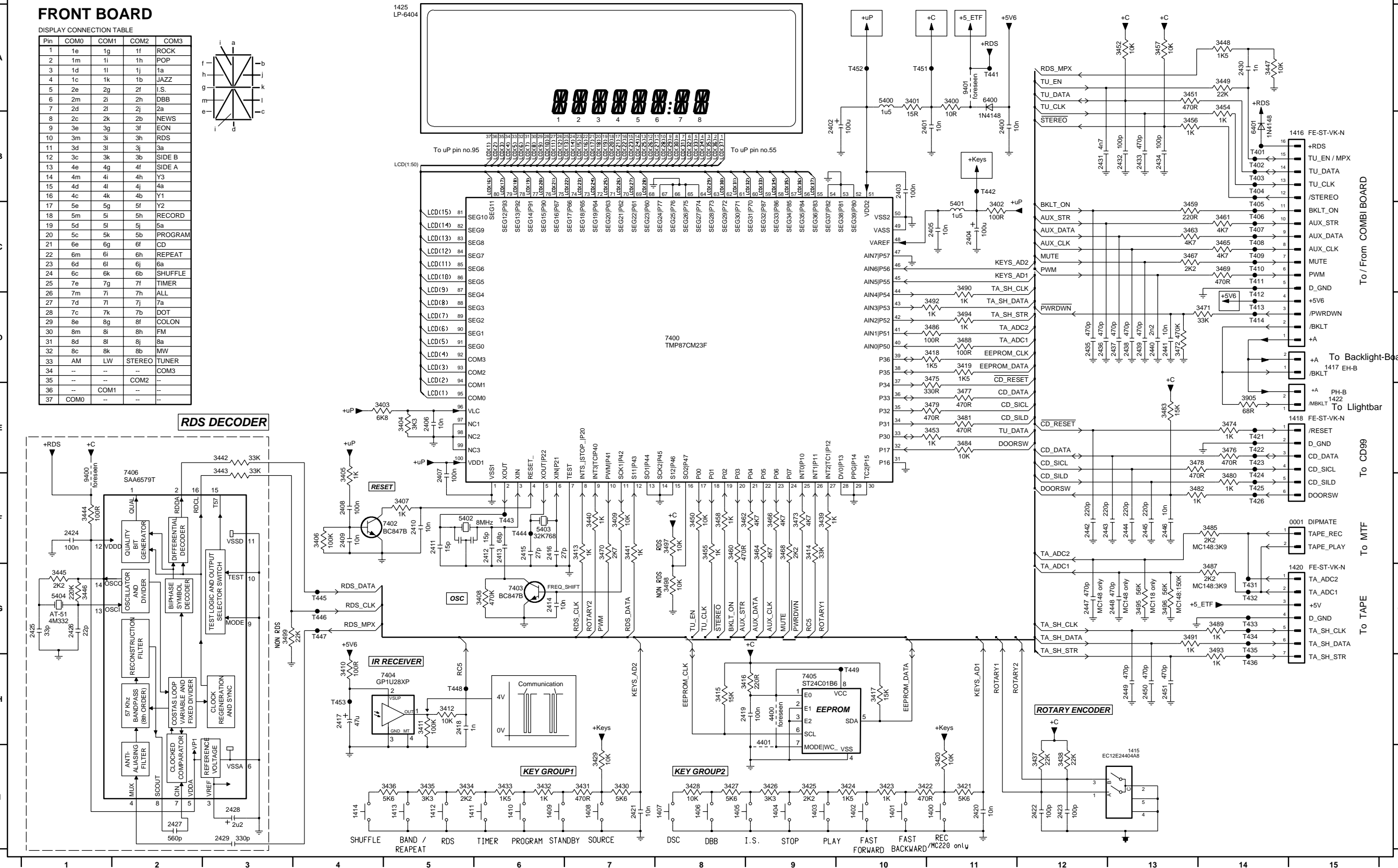
0071 A1	1721 A4	2708 A3	2740 B3	7702 A1	9705 B2	9753 B4	9766 C3
0072 C4	1722 A4	2709 B3	2770 A3	7705 B3	9706 B3	9754 C1	9767 C3
0073 A4	1725 B4	2710 B1	2771 B2	9701 A4	9707 C3	9755 C1	9768 C4
1700 C3	2700 B4	2711 B2	2772 B4	9702 A2	9735 C2	9758 C4	9769 C1
1701 A4	2706 A3	2730 C1	5701 B1	9703 B3	9750 C3	9764 B3	9770 B2
1707 C3	2707 A2	2731 B1	6704 A2	9704 B2	9752 C4	9765 C2	9771 A3

2712 C3	2723 B2	2750 A2	3710 A2	3724 A1	3736 A1	3749 B1	3776 B1	5703 A2	7703 A1
2713 A2	2726 B2	2751 B3	3712 C3	3726 A2	3737 B1	3761 B2	4701 A1	5704 A2	7704 A1
2714 A1	2727 C3	2773 B2	3713 B2	3727 A2	3738 B1	3762 A2	4703 A2	5705 A2	
2715 A2	2728 B1	2774 B2	3714 B2	3729 A1	3739 A1	3770 A2	4705 A3	5706 B2	
2716 A2	2729 B1	2775 B2	3716 B2	3730 A3	3740 B1	3771 A2	4706 A3	5707 B2	
2719 A2	2732 B3	2776 B2	3719 B2	3731 B3	3743 A3	3772 A2	4708 B1	5708 C2	
2720 B2	2733 B3	2777 B2	3720 C3	3732 B3	3744 A3	3773 B2	4713 C2	5709 C2	
2721 B2	2738 C2	2778 B2	3722 C1	3733 A3	3747 B3	3774 A3	4714 C2	5710 A3	
2722 B2	2739 B1	2780 B3	3723 B1	3734 C1	3748 C2	3775 B1	5702 B2	7701 A1	



# CIRCUIT DIAGRAM - FRONT BOARD

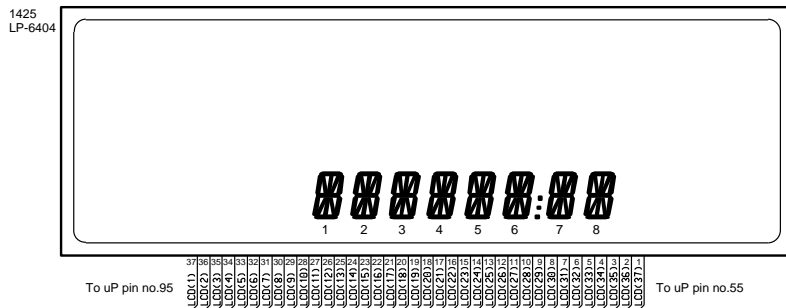
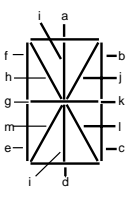
0001 F15	1406 I8	1413 I5	1422 E15	2405 C11	2412 F6	2419 H8	2426 G1	2433 B13	2440 D13	2447 G12	3402 C11	3409 F7	3416 H9	3423 I10	3430 I7	3437 I12	3444 F1	3451 A13	3458 F8	3465 C14	3472 D13	3479 E11	3486 D11	3493 G14	3905 E14	5404 G1	7405 H9	T404 B14	T411 C14	T424 F14	T435 G14	T446 G4
1400 I11	1407 I8	1414 I4	1425 A5	2406 E5	2413 F6	2420 I11	2427 I2	2434 B13	2441 D13	2448 G13	3403 E4	3410 H4	3417 H10	3424 I10	3431 I7	3438 I12	3445 G1	3452 A13	3459 C13	3466 F9	3473 F9	3480 F14	3487 G14	3494 D11	4400 H9	6400 A11	7406 F2	T405 C14	T412 D14	T425 F14	T436 H14	T447 G4
1401 I10	1408 I7	1415 I13	2400 B11	2407 F5	2414 G6	2421 I7	2428 I3	2435 D12	2442 F12	2449 H13	3404 E5	3411 H5	3418 D11	3425 I9	3432 I6	3439 F9	3446 G1	3453 E11	3460 F8	3467 C13	3474 E14	3481 E11	3488 D11	3495 G13	4401 I9	6401 B14	7406 F1	T406 C14	T413 D14	T426 F14	T441 A11	T448 H5
1402 I10	1409 I6	1416 B15	2401 B10	2408 F4	2415 F6	2422 I12	2429 I3	2436 D12	2443 F13	2450 H13	3405 F4	3412 H5	3419 D11	3426 I9	3433 I6	3440 F7	3447 A14	3454 A14	3461 C14	3468 F9	3475 D11	3482 F13	3489 G14	3496 G13	5400 A10	7400 D8	9401 A11	T407 C14	T414 D14	T431 G14	T442 B11	T449 H10
1403 I9	1410 I6	1417 D15	2402 B9	2409 F4	2416 F6	2423 I12	2430 A14	2437 D13	2444 F13	2451 H13	3406 F4	3413 F7	3420 I11	3427 I8	3434 I5	3441 F7	3448 A14	3455 F14	3462 F9	3469 C14	3476 E14	3483 E13	3490 C11	3497 F8	5401 C11	7402 F4	T401 B14	T408 C14	T421 E14	T432 G14	T443 F6	T451 A10
1404 I9	1411 I5	1418 E15	2403 B10	2410 F5	2417 H4	2424 F1	2431 B12	2438 D13	2445 F13	3400 A11	3407 F5	3414 F9	3421 I11	3428 I8	3435 I5	3442 E3	3449 A14	3456 B13	3463 C13	3470 F7	3477 E11	3484 E11	3491 G13	3498 G8	5402 F5	7403 G6	T402 B14	T409 C14	T422 E14	T433 G14	T444 F6	T452 A10
1405 I8	1412 I5	1420 G15	2404 C11	2411 F5	2418 H5	2425 G1	2432 B13	2439 D13	2446 F13	3401 A10	3408 G6	3415 H8	3422 I10	3429 I7	3436 I5	3443 E3	3450 F8	3457 A13	3464 F9	3471 D14	3478 E13	3485 F14	3492 D11	3499 G3	5403 F6	7404 H5	T403 B14	T410 C14	T423 E14	T434 G14	T445 G4	T453 H4



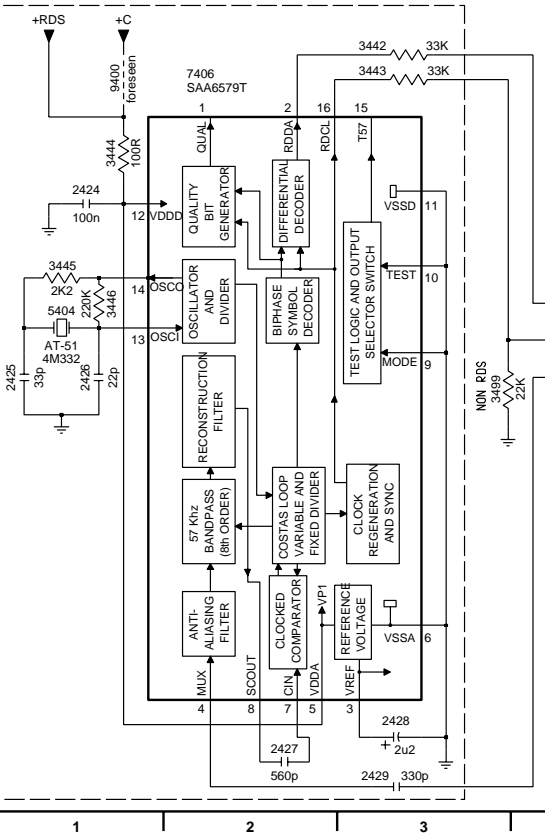
## FRONT BOARD

DISPLAY CONNECTION TABLE

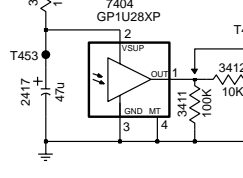
Pin	COM0	COM1	COM2	COM3
1	1e	1g	1f	ROCK
2	1m	1i	1h	POP
3	1d	1j	1a	1a
4	1c	1k	1b	JAZZ
5	2e	2g	2f	I.S.
6	2m	2i	2h	DBB
7	2d	2j	2a	2a
8	2c	2k	2b	NEWS
9	3e	3g	3f	EON
10	3m	3i	3h	RDS
11	3d	3j	3a	3a
12	3c	3k	3b	SIDE B
13	4e	4g	4f	SIDE A
14	4m	4i	4h	Y3
15	4d	4j	4a	4a
16	4c	4k	4b	Y1
17	5e	5g	5f	Y2
18	5m	5i	5h	RECORD
19	5d	5j	5a	5a
20	5c	5k	5b	PROGRAM
21	6e	6g	6f	CD
22	6m	6i	6h	REPEAT
23	6d	6j	6a	6a
24	6c	6k	6b	SHUFFLE
25	7e	7g	7f	TIMER
26	7m	7i	7h	ALL
27	7d	7j	7a	7a
28	7c	7k	7b	DOT
29	8e	8g	8f	COLON
30	8m	8i	8h	FM
31	8d	8j	8a	8a
32	8c	8k	8b	MW
33	AM	LW	STEREO	TUNER
34	-	-	-	COM3
35	-	COM1	-	-
36	-	COM2	-	-
37	COM0	-	-	-



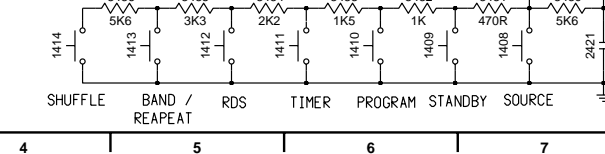
## RDS DECODER



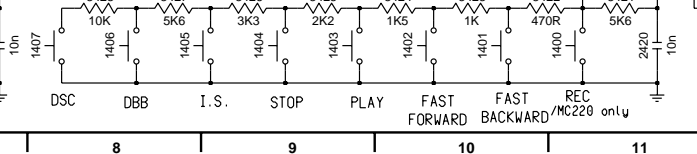
## IR RECEIVER



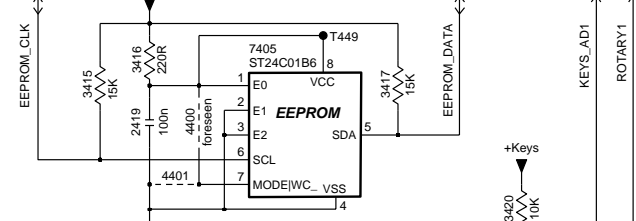
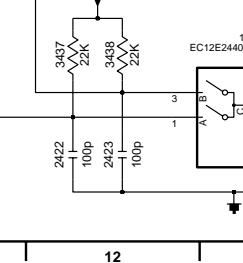
## KEY GROUP 1



## KEY GROUP 2



## ROTARY ENCODER



To / From COMBI BOARD

To Backlight-Board

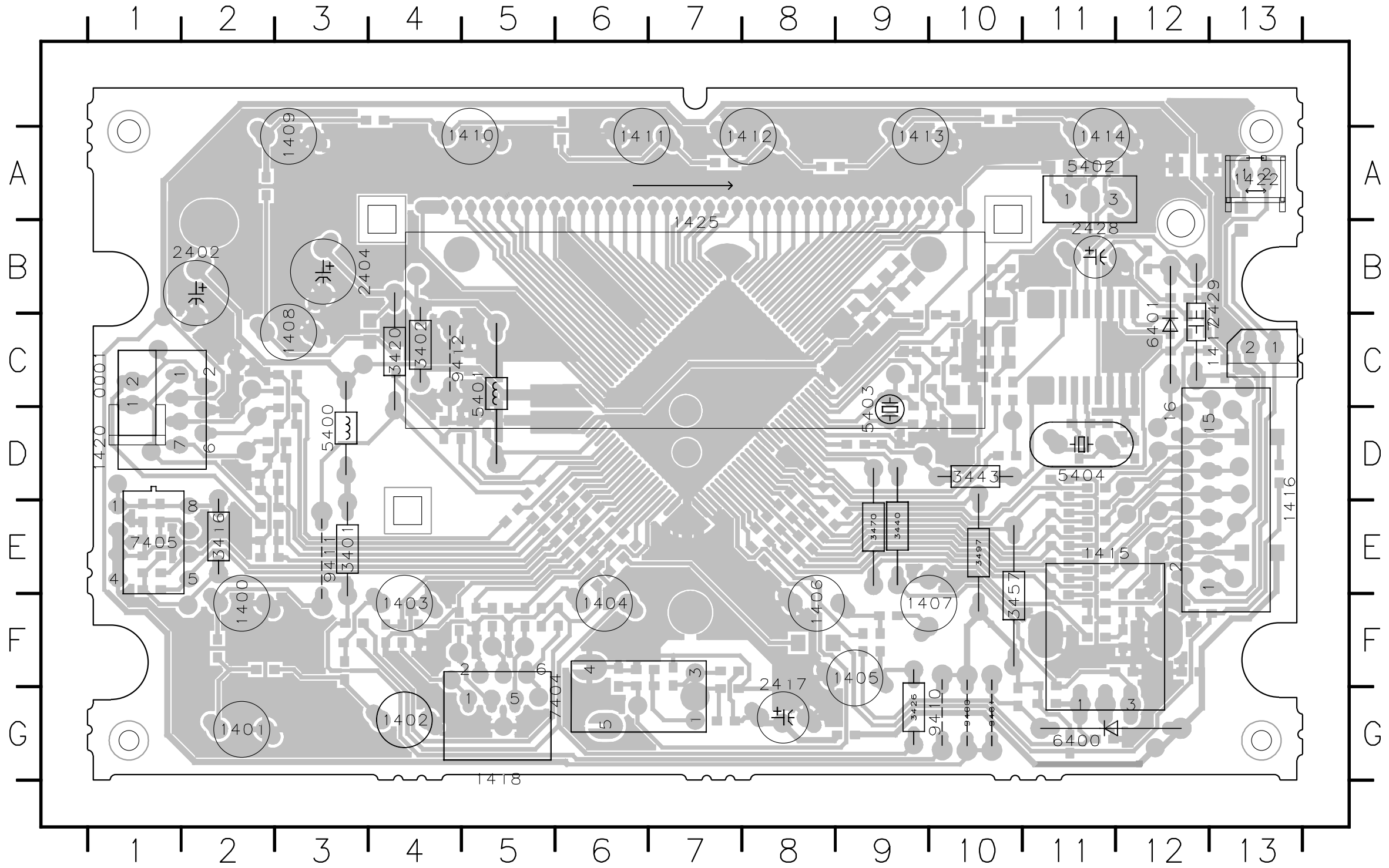
To Lightbar

To CD99

To TAPE

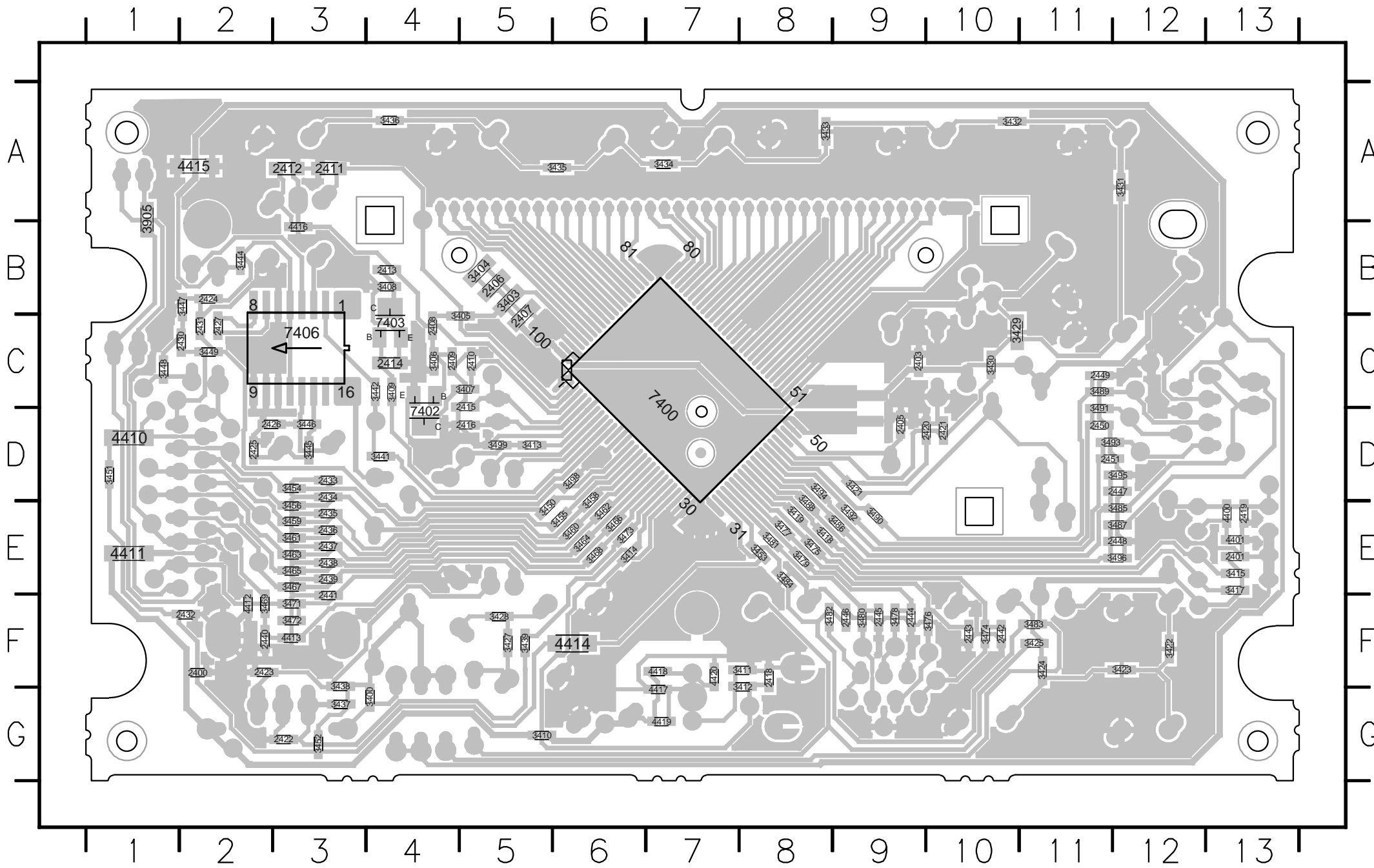
To MTF

LAYOUT DIAGRAM - FRONT BOARD  
Component Side View



- 0001 C1
- 1400 F2
- 1401 G2
- 1402 G4
- 1403 F4
- 1404 F6
- 1405 F9
- 1406 F8
- 1407 F9
- 1408 C3
- 1409 A3
- 1410 A5
- 1411 A6
- 1412 A8
- 1413 A9
- 1414 A11
- 1415 E11
- 1416 E13
- 1417 C13
- 1418 G5
- 1420 D1
- 1422 A13
- 1425 B7
- 2402 B2
- 2404 B3
- 2417 F8
- 2428 B11
- 2429 B13
- 3401 E3
- 3402 C4
- 3416 E2
- 3420 C4
- 3426 G9
- 3440 E9
- 3443 D10
- 3457 F10
- 3470 E9
- 3497 E10
- 5400 D3
- 5401 C5
- 5402 A11
- 5403 D9
- 5404 D11
- 6400 G11
- 6401 C12
- 7404 G6
- 7405 E1
- 9400 G10
- 9401 G10
- 9410 G10
- 9411 E3
- 9412 C4

LAYOUT DIAGRAM - FRONT DIAGRAM  
Copper Side View

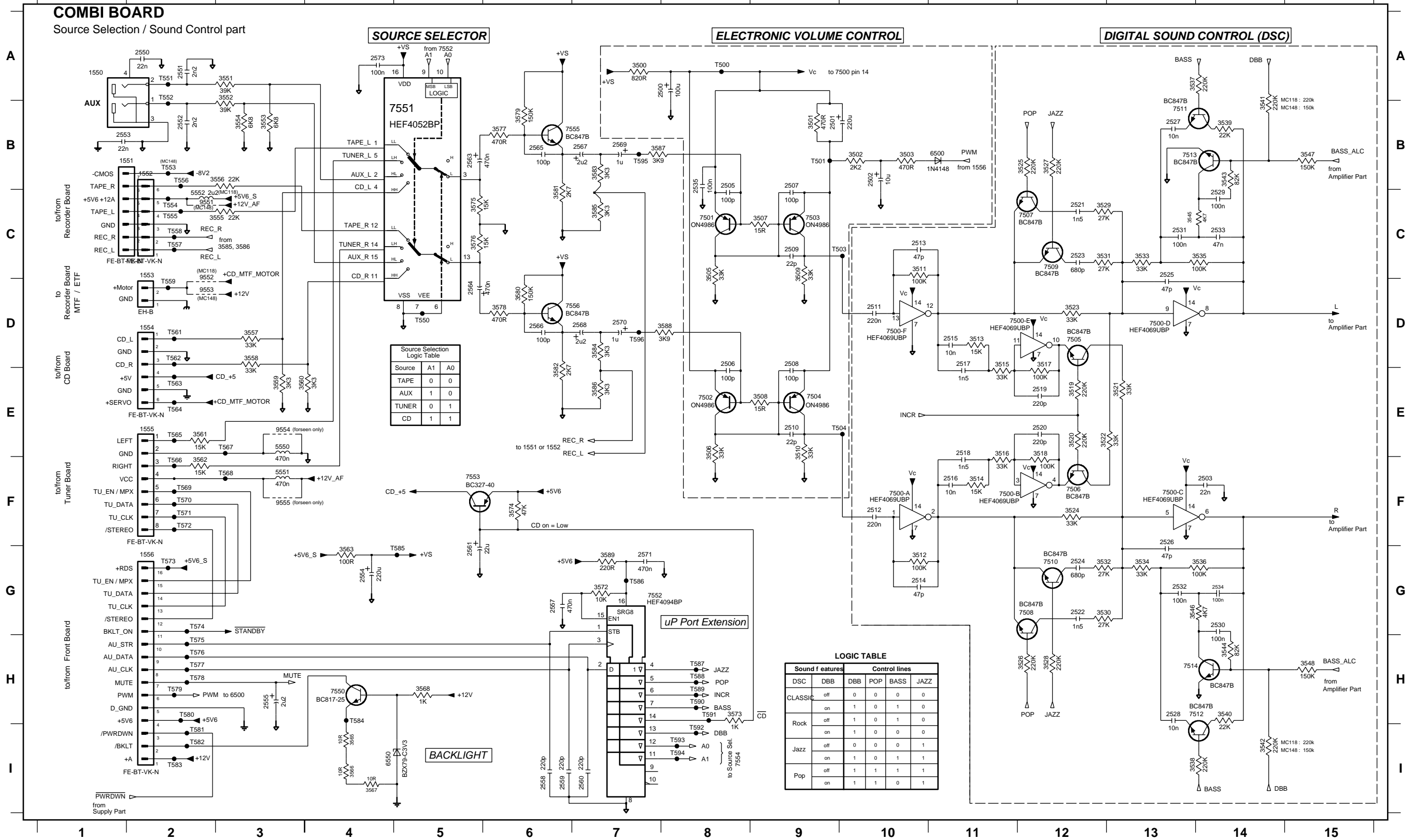


2400	F2	3407	C5	3465	E3
2401	E13	3408	B4	3466	E6
2403	C9	3409	C4	3467	E3
2405	D9	3410	G5	3468	E6
2406	B5	3411	F8	3469	F2
2407	C5	3412	F8	3471	F3
2408	C4	3413	D5	3472	F3
2409	C4	3414	E6	3473	E6
2410	C5	3415	E13	3474	F10
2411	A3	3417	F13	3475	E8
2412	A3	3418	E8	3476	F10
2413	B4	3419	E8	3477	E8
2414	C4	3421	D9	3478	F9
2415	C5	3422	F12	3479	E8
2416	D5	3423	F12	3480	F9
2418	F8	3424	F11	3481	E8
2419	E13	3425	F11	3482	F8
2420	D10	3427	F5	3483	F11
2421	D10	3428	F5	3484	E8
2422	G3	3429	C10	3485	E12
2423	F2	3430	C10	3486	E9
2424	B2	3431	A12	3487	E12
2425	D2	3432	A10	3488	E8
2426	D2	3433	A8	3489	C11
2427	C2	3434	A7	3490	E9
2430	C2	3435	A6	3491	D11
2431	C2	3436	A4	3492	E9
2432	F2	3437	G3	3493	D11
2433	D3	3438	F3	3494	D8
2434	D3	3439	F5	3495	D12
2435	E3	3441	D4	3496	E12
2436	E3	3442	C4	3498	D6
2437	E3	3444	B2	3499	D5
2438	E3	3445	D3	3905	B1
2439	E3	3446	D3	4400	E13
2440	F2	3447	B2	4401	E13
2441	F3	3448	C1	4410	D1
2442	F10	3449	C2	4411	E1
2443	F10	3450	E5	4412	F2
2444	F9	3451	D1	4413	F3
2445	F9	3452	G3	4414	F6
2446	F9	3453	E8	4415	A2
2447	D12	3454	D3	4416	B3
2448	E12	3455	E6	4417	G7
2449	C11	3456	E3	4418	F7
2450	D11	3458	D6	4419	G7
2451	D11	3459	E3	4420	F7
3400	G4	3460	E6	7400	C7
3403	B5	3461	E3	7402	D4
3404	B5	3462	E6	7403	C4
3405	C5	3463	E3	7406	C3
3406	C4	3464	E6		



# CIRCUIT DIAGRAM - COMBI BOARD (Part 1)

1550 A1	2501 B9	2510 E9	2518 E11	2526 F13	2534 G14	2557 G6	2566 D6	3501 B9	3510 E9	3518 E12	3526 H12	3534 G13	3542 H14	3552 A3	3560 E3	3572 G7	3580 D6	3588 D8	7500-B F11	7504 E9	7512 H13	7556 D6	T503 C9	T556 B2	T565 E2	T573 G2	T581 I2	T589 H8
1551 B2	2502 B10	2511 D10	2519 E12	2527 B13	2535 B8	2558 I6	2567 B7	3502 B10	3511 C10	3519 E12	3527 B12	3535 C14	3543 B14	3553 B3	3561 E2	3573 H8	3581 C6	3589 G7	7500-C F13	7505 D12	7513 B14	7555 C2	T504 E9	T557 C2	T566 F2	T574 G2	T582 I2	T590 H8
1552 B2	2503 F14	2512 F10	2520 E12	2528 H13	2550 A2	2559 I6	2568 D7	3503 B10	3512 G10	3520 E12	3528 H12	3536 G14	3544 H14	3554 B3	3562 F2	3574 F6	3582 E6	5550 E3	7500-D D13	7506 F12	7514 H14	9552 D2	T550 D5	T558 C2	T567 E3	T575 H2	T583 I2	T591 H8
1553 C2	2505 B8	2513 C10	2521 C12	2529 C14	2551 A2	2560 I7	2569 B7	3505 C8	3513 D11	3521 E13	3529 C12	3537 A13	3545 C13	3555 C3	3563 G4	3575 C5	3583 B7	5551 F3	7500-E D11	7507 C12	7550 H4	9553 D2	T551 A2	T559 D2	T568 F3	T576 H2	T584 I4	T592 I8
1554 D2	2506 D8	2514 G10	2522 G12	2530 G14	2552 B2	2561 G5	2570 D7	3506 E8	3514 F11	3522 E12	3530 G12	3538 I13	3546 G13	3556 B3	3565 I4	3576 C5	3584 D7	5552 C2	7500-F D10	7508 G12	7551 B4	9554 E3	T552 A2	T561 D2	T569 F2	T577 H2	T585 G5	T593 I8
1555 E2	2507 B9	2515 D11	2523 C12	2531 C13	2553 B1	2563 B5	2571 G7	3507 C9	3515 D11	3523 D12	3531 C12	3539 B14	3547 B15	3557 D3	3566 I4	3577 B6	3585 C7	6500 B11	7501 C8	7509 G12	7552 G7	9555 F3	T553 B2	T562 D2	T570 F2	T578 H2	T586 G7	T594 I8
1556 G2	2508 D9	2516 F11	2524 G12	2532 G13	2554 G4	2564 D5	2573 A4	3508 E9	3516 E11	3524 F12	3532 G12	3540 H14	3548 H15	3558 D3	3567 I4	3578 D6	3586 E7	6550 I4	7502 E8	7510 G12	7553 F5	T500 A8	T554 C2	T563 E2	T571 F2	T579 H2	T587 H8	T595 B7
2500 A8	2509 C9	2517 D11	2525 C13	2533 C14	2555 H3	2565 B6	3500 A7	3509 C9	3517 D12	3525 B12	3533 C13	3541 B14	3549 A3	3559 E3	3568 H5	3579 B6	3587 B7	7500-A F10	7503 C9	7511 B13	7555 B6	T501 B9	T555 C2	T564 E2	T572 F2	T580 H2	T588 H8	T596 D7



### SOURCE SELECTOR

### ELECTRONIC VOLUME CONTROL

### DIGITAL SOUND CONTROL (DSC)

Source Selection Logic Table

Source	A1	A0
TAPE	0	0
AUX	1	0
TUNER	0	1
CD	1	1

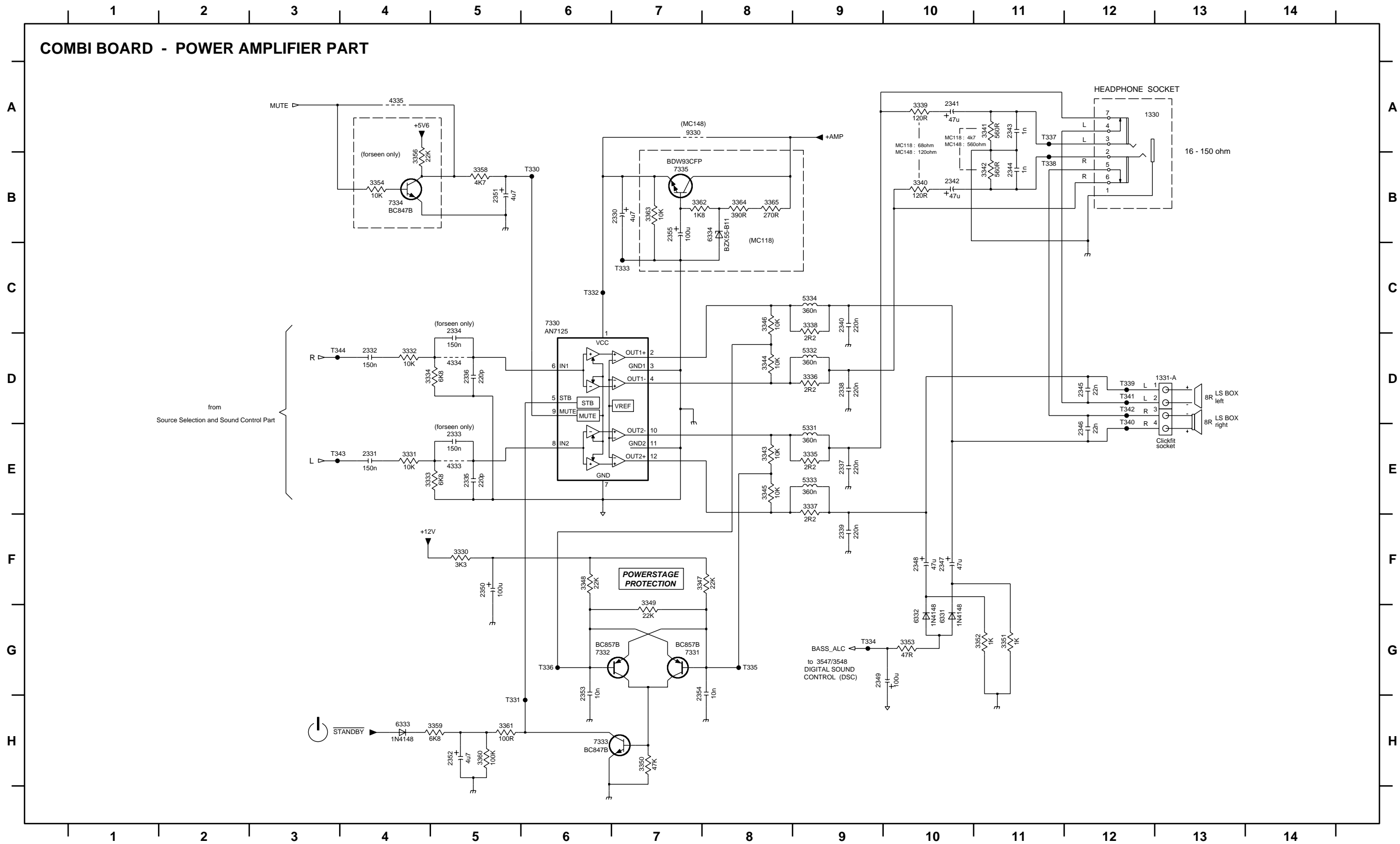
LOGIC TABLE

Sound features	Control lines				
	DSC	DBB	POP	BASS	JAZZ
CLASSIC	off	0	0	0	0
Rock	on	1	0	1	0
Jazz	off	0	0	0	1
Pop	on	1	1	1	1

### BACKLIGHT

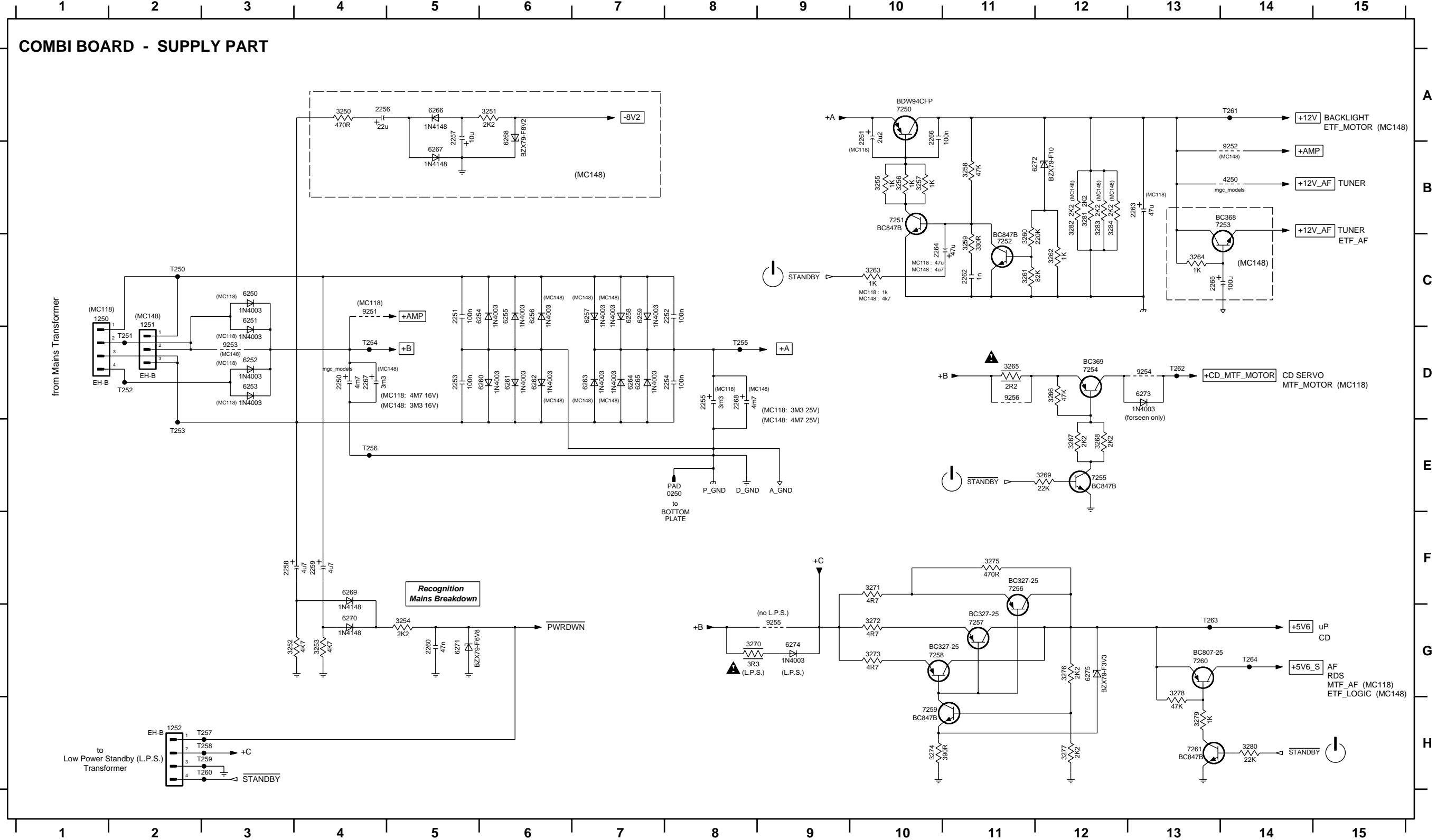
# CIRCUIT DIAGRAM - COMBI BOARD (Part 2)

1330 A12	2332 D4	2336 D5	2340 C9	2344 B11	2348 F10	2352 H5	3330 F5	3334 D4	3338 C9	3342 B11	3346 C8	3350 H7	3354 B4	3360 H5	3364 B8	4335 A4	5334 C9	6334 B8	7333 H6	T330 B6	T334 G9	T338 B11	T342 D12
1331-A D13	2333 E5	2337 E9	2341 A10	2345 D12	2349 G9	2353 G6	3331 E4	3335 E9	3339 A10	3343 E8	3347 F7	3351 G11	3356 B4	3361 H5	3365 B8	5331 E9	6331 G10	7330 C6	7334 B4	T331 H5	T335 G8	T339 D12	T343 E3
2330 B7	2334 C5	2338 D9	2342 B10	2346 E12	2350 F5	2354 G7	3332 D4	3336 D9	3340 B10	3344 D8	3348 F6	3352 G11	3358 B5	3362 B7	4333 E5	5332 D9	6332 G10	7331 G7	7335 B7	T332 C6	T336 G6	T340 E12	T344 D3
2331 E4	2335 E5	2339 F9	2343 A11	2347 F10	2351 B5	2355 B7	3333 E4	3337 E9	3341 A11	3345 E8	3349 G7	3353 G10	3359 H5	3363 B7	4334 D5	5333 E9	6333 H4	7332 G6	9330 A7	T333 C7	T337 A11	T341 D12	



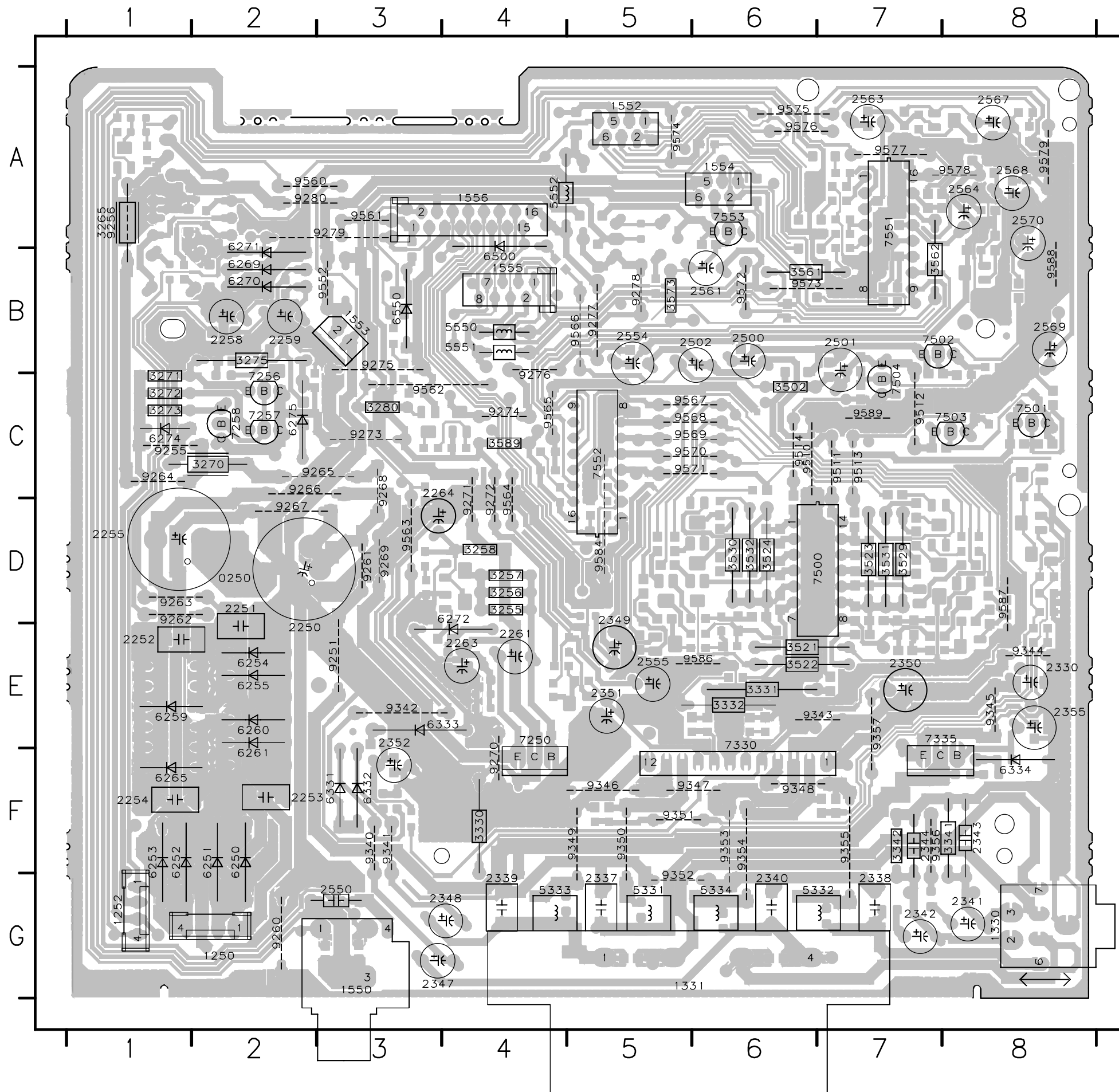
# CIRCUIT DIAGRAM - COMBI BOARD (Part 3)

0250 E8	2250 D4	2254 D8	2258 F3	2262 C11	2266 A10	3251 A6	3255 B10	3259 C11	3263 C10	3267 E12	3271 F10	3275 F11	3279 H13	3283 B12	6251 C3	6255 C6	6259 C7	6263 D7	6267 B5	6271 G5	6275 G12	7253 B13	7257 G11	7261 H13	9254 D13	T251 D2	T255 D8	T259 H3	T263 G13
1250 C1	2251 C5	2255 D8	2259 F4	2263 B13	2267 D4	3252 G3	3256 B10	3260 C11	3264 C13	3268 E12	3272 G10	3276 G12	3280 H14	3284 B12	6252 D3	6256 C6	6260 D6	6264 D7	6268 A6	6272 B11	7250 A10	7254 D12	7258 G10	9251 C4	9255 G9	T252 D2	T256 E4	T260 H3	T264 G14
1251 D2	2252 C8	2256 A4	2260 G5	2264 C10	2268 D8	3253 G4	3257 B10	3261 C11	3265 D11	3269 E12	3273 G10	3277 H12	3281 B12	4250 B14	6253 D3	6257 C7	6261 D6	6265 D7	6269 F4	6273 D13	7251 B10	7255 E12	7259 H10	9252 B14	9256 D11	T253 E2	T257 H3	T261 A14	
1252 H2	2253 D5	2257 A5	2261 A10	2265 C13	3250 A4	3254 G5	3258 B11	3262 C12	3266 D12	3270 G8	3274 H10	3278 G13	3282 B12	6250 C3	6254 C5	6258 C7	6262 D6	6266 A5	6270 G4	6274 G9	7252 C11	7256 F11	7260 G13	9253 D3	T250 C2	T254 D4	T258 H3	T262 D13	



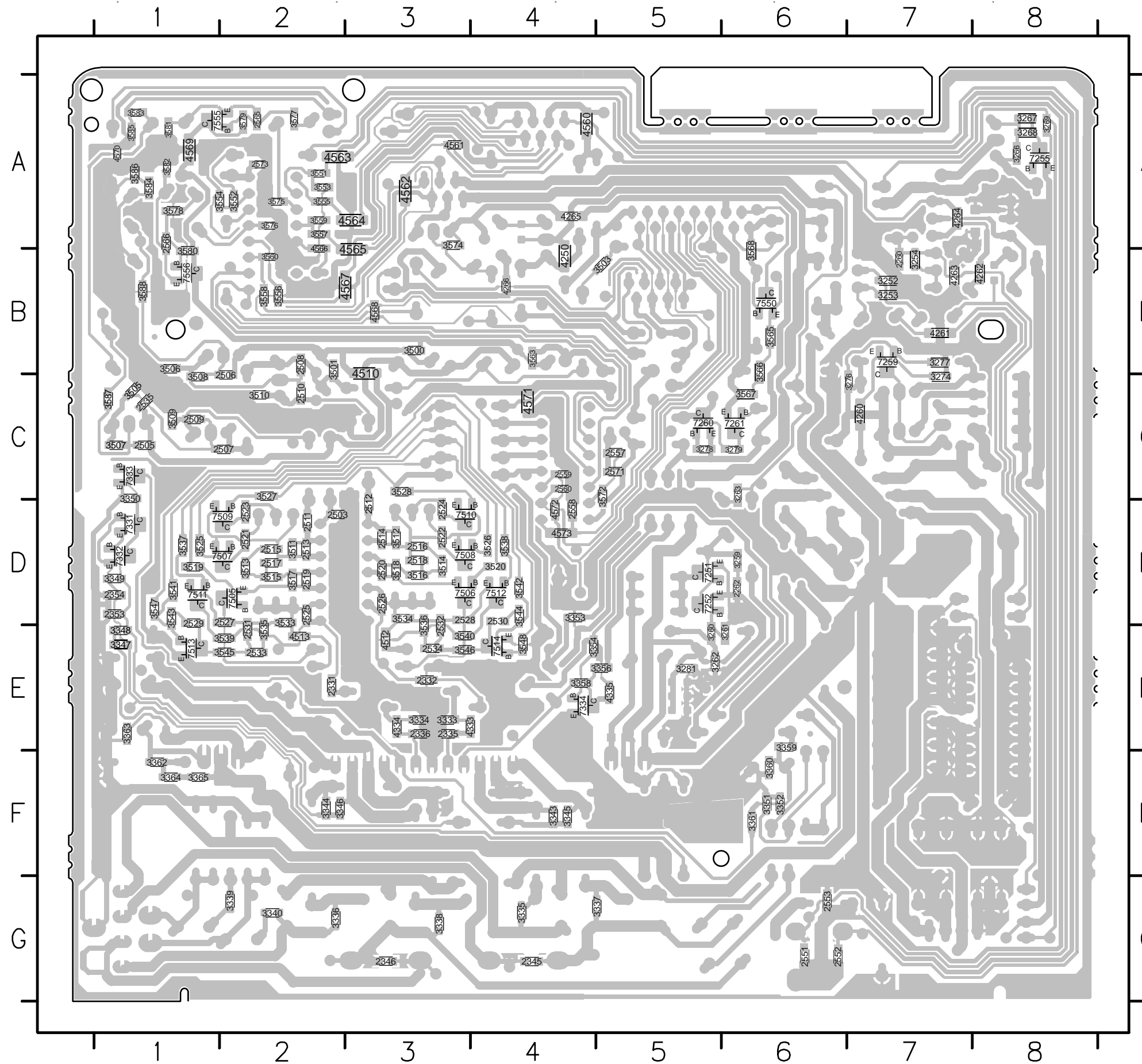
# LAYOUT DIAGRAM - COMBI BOARD

## Component Side View



0250	D2	3341	F8	9253	F2	9578	A8
1250	G2	3342	F7	9254	A2	9579	A8
1251	G2	3502	C6	9255	C1	9584	D5
1252	G1	3521	E6	9256	A1	9586	E6
1330	G8	3522	E6	9260	G2	9587	D8
1331	G5	3523	D7	9261	D3	9588	B8
1550	G3	3524	D6	9262	D1	9589	C7
1551	A5	3529	D7	9263	D1		
1552	A5	3530	D6	9264	C1		
1553	B3	3531	D7	9265	C3		
1554	A6	3532	D6	9266	C2		
1555	B4	3561	B6	9267	D2		
1556	A4	3562	B7	9268	C3		
2250	E2	3573	B5	9269	D3		
2251	D2	3589	C4	9270	F4		
2252	E1	5331	G5	9271	D4		
2253	F2	5332	G7	9272	D4		
2254	F1	5333	G4	9273	C3		
2255	D1	5334	G6	9274	C4		
2256	B1	5550	B4	9275	B3		
2257	B2	5551	B4	9276	C4		
2258	B2	5552	A4	9277	B5		
2259	B2	6250	F2	9278	B5		
2261	E4	6251	F2	9279	A3		
2263	E4	6252	F1	9280	A2		
2264	C3	6253	F1	9330	F7		
2265	A5	6254	E2	9340	F3		
2267	E2	6255	E2	9341	F3		
2268	D1	6256	E2	9342	E3		
2330	E8	6257	E1	9343	E7		
2337	G5	6258	E1	9344	E8		
2338	G7	6259	E1	9345	E8		
2339	G4	6260	E2	9346	F5		
2340	G6	6261	F2	9347	F6		
2341	G8	6262	F2	9348	F6		
2342	G7	6263	E1	9349	F5		
2343	F8	6264	F1	9350	F5		
2344	F7	6265	F1	9351	F5		
2347	G3	6266	A2	9352	G5		
2348	G4	6267	A2	9353	F6		
2349	D5	6268	A2	9354	F6		
2350	E7	6269	B2	9355	F7		
2351	E5	6270	B2	9356	F7		
2352	E3	6271	A2	9357	E7		
2355	E8	6272	D4	9510	C6		
2500	B6	6273	A2	9511	C7		
2501	B7	6274	C1	9512	C7		
2502	B6	6275	C2	9513	C7		
2550	G3	6331	F3	9514	C6		
2554	B5	6332	F3	9551	A5		
2555	E5	6333	E4	9552	B3		
2561	B6	6334	F8	9553	B3		
2563	A7	6500	B4	9554	B4		
2564	A8	6550	B3	9555	B4		
2567	A8	7250	E4	9560	A2		
2568	A8	7253	A5	9561	A3		
2569	B8	7254	A1	9562	C3		
2570	A8	7256	C2	9563	D3		
3255	D4	7257	C2	9564	D4		
3256	D4	7258	C2	9565	C4		
3257	D4	7330	E6	9566	B5		
3258	D4	7335	E7	9567	C5		
3265	A1	7500	D7	9568	C5		
3270	C2	7501	C8	9569	C5		
3271	C1	7502	B7	9570	C5		
3272	C1	7503	C8	9571	C5		
3273	C1	7504	C7	9572	B6		
3275	B2	7551	A7	9573	B6		
3280	C3	7552	C5	9574	A5		
3330	F4	7553	A6	9575	A6		
3331	E6	9251	E3	9576	A6		
3332	E6	9252	F4	9577	A7		

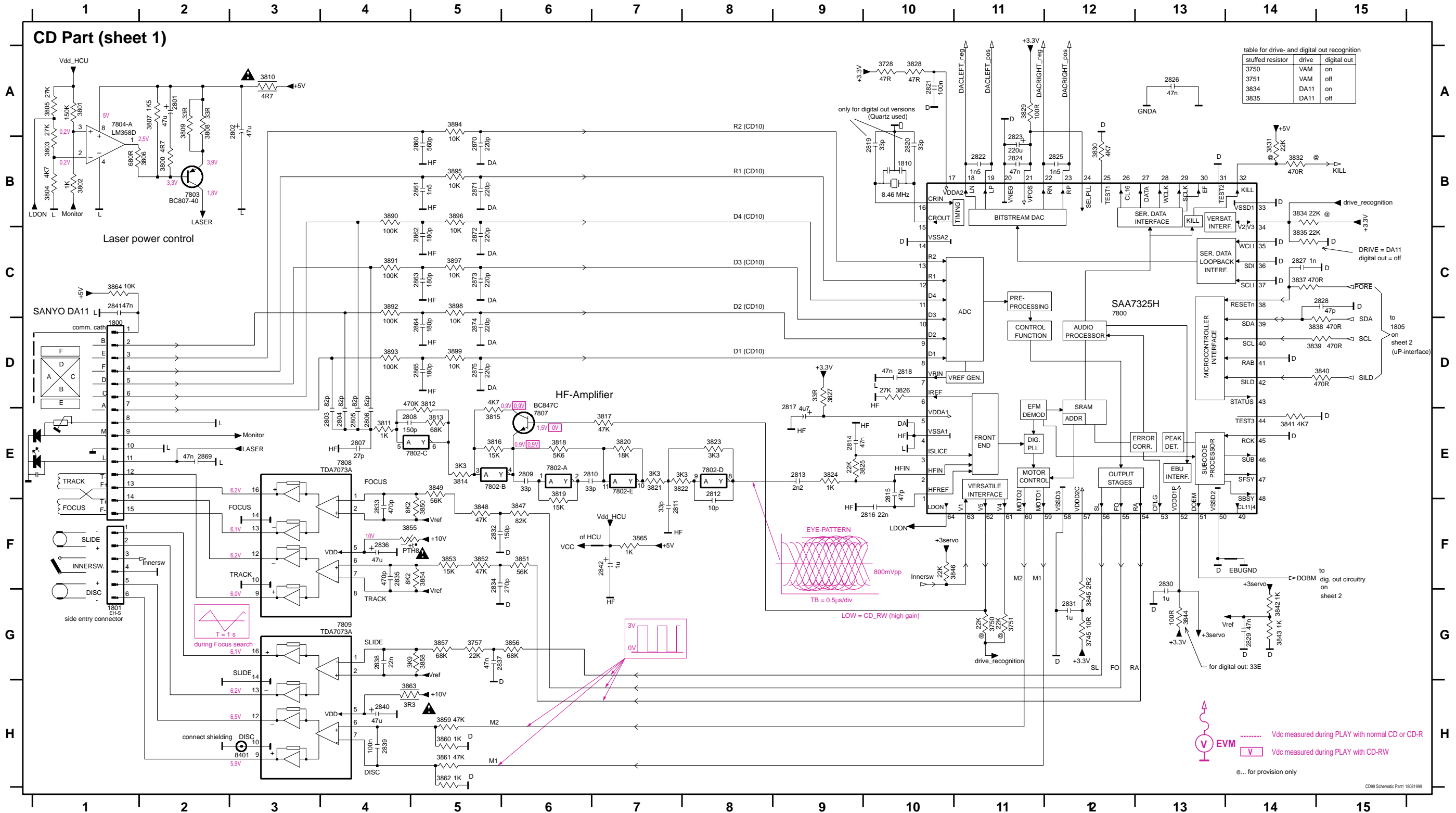
LAYOUT DIAGRAM - COMBI BOARD  
Copper Side View



2260	B7	3276	C7	3545	E2	7334	E4
2262	D6	3277	B7	3546	E3	7505	D2
2266	E5	3278	C5	3547	D1	7506	D3
2331	E2	3279	C6	3548	E4	7507	D2
2332	E3	3281	E5	3551	A2	7508	D3
2333	E4	3282	E5	3552	A2	7509	D2
2334	E3	3283	E5	3553	A2	7510	D3
2335	E3	3284	E5	3554	A2	7511	D1
2336	E3	3333	E3	3555	A2	7512	D4
2345	G4	3334	E3	3556	B2	7513	E1
2346	G3	3335	G4	3557	A2	7514	E4
2353	D1	3336	G2	3558	B2	7550	B6
2354	D1	3337	G5	3559	A2	7555	A1
2503	D2	3338	G3	3560	B2	7556	B1
2505	C1	3339	G2	3563	B4		
2506	C2	3340	G2	3565	B6		
2507	C2	3343	F4	3566	B6		
2508	B2	3344	F2	3567	C6		
2509	C1	3345	F4	3568	B6		
2510	C2	3346	F2	3572	C5		
2511	D2	3347	E1	3574	A3		
2512	D3	3348	E1	3575	A2		
2513	D2	3349	D1	3576	A2		
2514	D3	3350	C1	3577	A2		
2515	D2	3351	F6	3578	A1		
2516	D3	3352	F6	3579	A2		
2517	D2	3353	D4	3580	B1		
2518	D3	3354	E4	3581	A1		
2519	D2	3356	E5	3582	A1		
2520	D3	3358	E4	3583	A1		
2521	D2	3359	E6	3584	A1		
2522	D3	3360	F6	3585	A1		
2523	D2	3361	F6	3586	A1		
2524	D3	3362	F1	3587	C1		
2525	D2	3363	E1	3588	B1		
2526	D3	3364	F1	4250	B4		
2527	D2	3365	F1	4260	C7		
2528	D3	3500	B3	4261	B7		
2529	D1	3501	B2	4262	B8		
2530	D4	3503	B5	4263	B7		
2531	E2	3505	C1	4264	A8		
2532	E3	3506	B1	4265	A4		
2533	E2	3507	C1	4266	B4		
2534	E3	3508	C1	4333	E4		
2535	C1	3509	C1	4334	E3		
2551	G6	3510	C2	4335	E5		
2552	G6	3511	D2	4510	B3		
2553	G6	3512	D3	4512	E3		
2557	C5	3513	D2	4513	E2		
2558	D4	3514	D3	4560	A4		
2559	C4	3515	D2	4561	A3		
2560	C4	3516	D3	4562	A3		
2565	A2	3517	D2	4563	A2		
2566	A1	3518	D3	4564	A3		
2571	C5	3519	D1	4565	B3		
2573	A2	3520	D4	4566	A2		
3250	B8	3525	D1	4567	B3		
3251	A7	3526	D4	4568	B3		
3252	B7	3527	C2	4569	A1		
3253	B7	3528	C3	4570	A1		
3254	B7	3533	D2	4571	C4		
3259	D6	3534	D3	4572	D4		
3260	E5	3535	E2	4573	D4		
3261	E6	3536	E3	7251	D5		
3262	E5	3537	D1	7252	D5		
3263	C6	3538	D4	7255	A8		
3264	A4	3539	E2	7259	B7		
3266	A8	3540	E3	7260	C5		
3267	A8	3541	D1	7261	C6		
3268	A8	3542	D4	7331	D1		
3269	A8	3543	D1	7332	D1		
3274	C7	3544	D4	7333	C1		

# CIRCUIT DIAGRAM - CD99/ DA11 BOARD (Part 1)

1800 D1	2806 E4	2813 E9	2820 B10	2827 C14	2834 F5	2841 C1	2865 D5	2875 D5	3801 A1	3808 A2	3815 E5	3822 E7	3829 A11	3838 D14	3845 G12	3852 F5	3859 H5	3890 B4	3897 C5	7802-D E8	7808 E4
1801 G1	2807 E4	2814 E9	2821 B11	2828 C14	2835 F4	2842 F7	2869 E2	3728 A10	3802 B1	3809 A2	3816 E5	3823 E8	3830 B12	3839 D14	3846 F10	3853 F5	3860 H5	3891 C4	3898 C5	7802-E E7	7809 G4
2801 A2	2808 E4	2815 E10	2822 B11	2829 G14	2836 F4	2860 B5	2870 B5	3745 G12	3803 B1	3810 A3	3817 E7	3824 E9	3831 B14	3840 D15	3847 F6	3854 F5	3861 H5	3892 C4	3899 D5	7802-F F8	8401 H3
2802 A3	2809 E6	2816 F10	2823 B11	2830 F13	2837 G5	2861 B5	2871 B5	3750 G11	3804 B1	3811 E4	3818 E6	3825 E9	3832 B14	3841 E14	3848 F5	3855 F4	3862 H5	3893 D4	7800 D12	7803 B2	
2803 E4	2810 E6	2817 D9	2824 B11	2831 G12	2838 G4	2862 C5	2872 C5	3751 G11	3805 A1	3812 D5	3819 E6	3826 D10	3834 B14	3842 G14	3849 E5	3856 G6	3863 H4	3894 A5	7802-A E6	7804-A A1	
2804 E4	2811 F7	2818 D9	2825 B12	2832 F5	2839 H4	2863 C5	2873 C5	3752 G5	3806 B2	3813 E5	3820 E7	3827 D9	3835 C14	3843 G14	3850 F5	3857 G5	3864 C1	3895 B5	7802-B E5	7804-B C3	
2805 E4	2812 E8	2819 B10	2826 A13	2833 F4	2840 H4	2864 D5	2874 D5	3800 B2	3807 A2	3814 E5	3821 E7	3828 A10	3837 C14	3844 G13	3851 F6	3858 G5	3865 F7	3896 B5	7802-C E5	7807 E6	

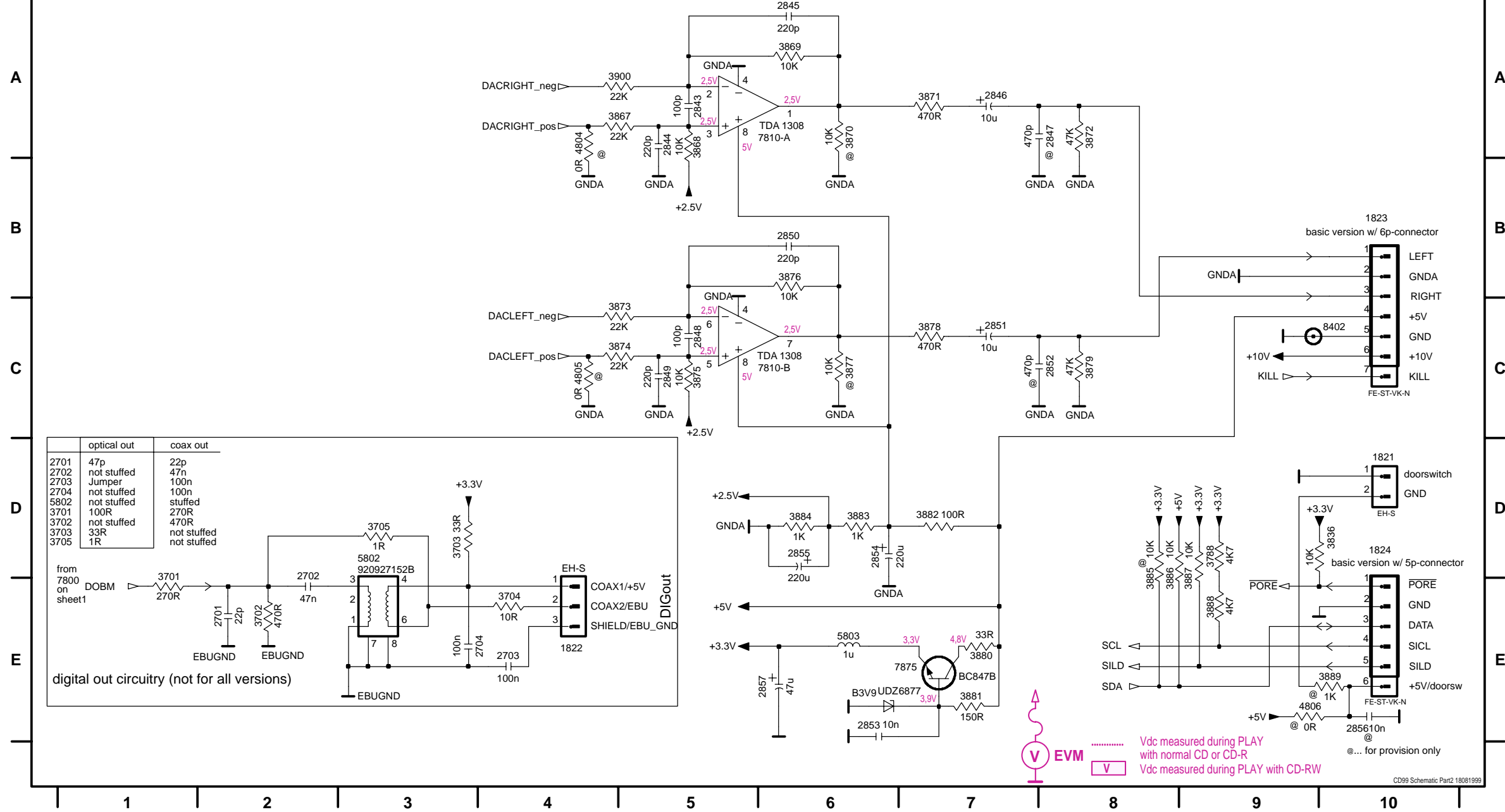




CIRCUIT DIAGRAM - CD99/ DA11 BOARD (Part 2)

1821 D10	2702 E2	2845 A6	2850 B6	2855 D6	3703 D3	3867 A5	3872 A8	3877 C6	3882 D7	3887 E9	4805 C4	7810-A A5
1822 E4	2703 E4	2846 A7	2851 C7	2856 E10	3704 E4	3868 A5	3873 C5	3878 C7	3883 D6	3888 E9	4806 E9	7810-B C5
1823 B10	2704 E3	2847 A8	2852 C8	2857 E6	3705 D3	3869 A6	3874 C5	3879 C8	3884 D6	3889 E10	5802 D3	7875 E7
1824 D10	2843 A5	2848 C5	2853 E6	3701 E1	3788 E9	3870 A6	3875 C5	3880 E7	3885 E8	3900 A5	5803 E6	8402 C9
2701 E2	2844 A5	2849 C5	2854 D6	3702 E2	3836 D10	3871 A7	3876 B6	3881 E7	3886 E8	4804 A4	6877 E7	

CD Part (sheet 2)



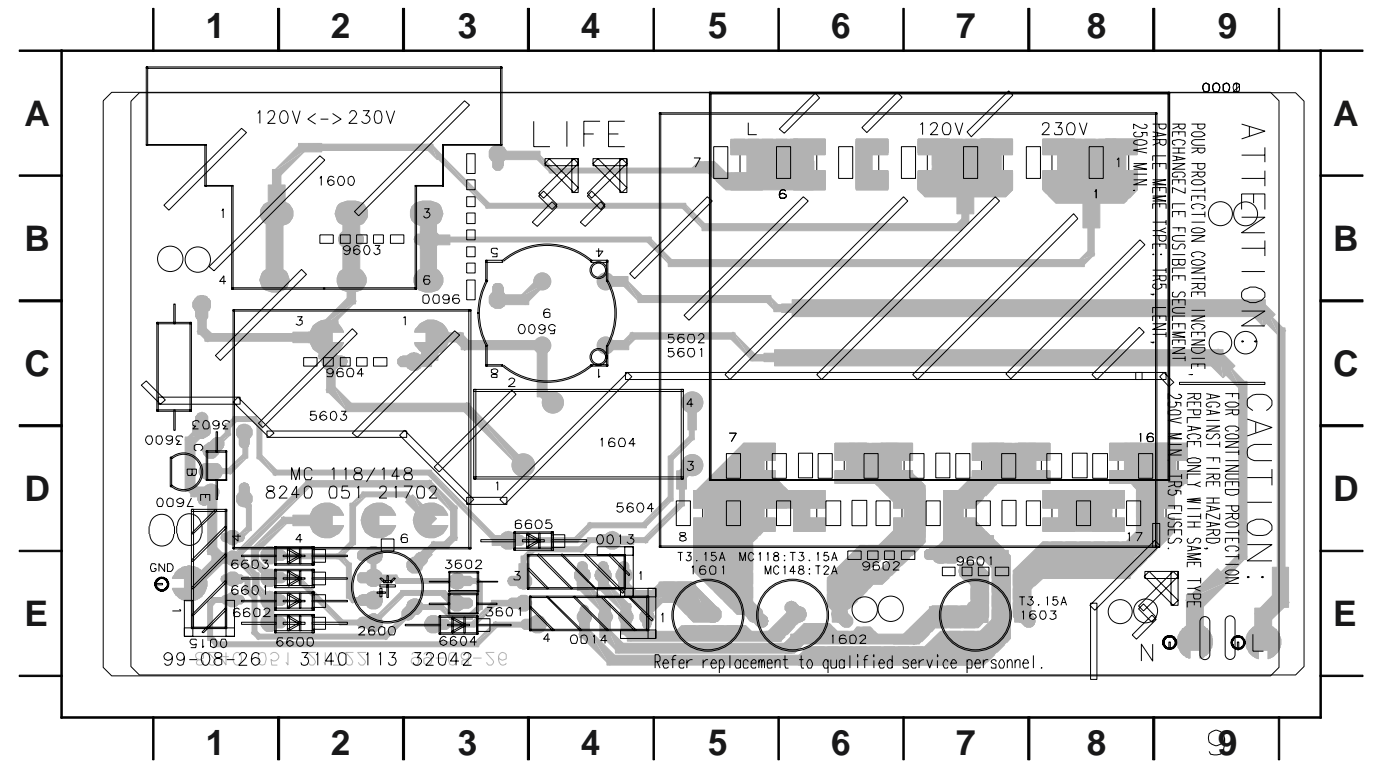
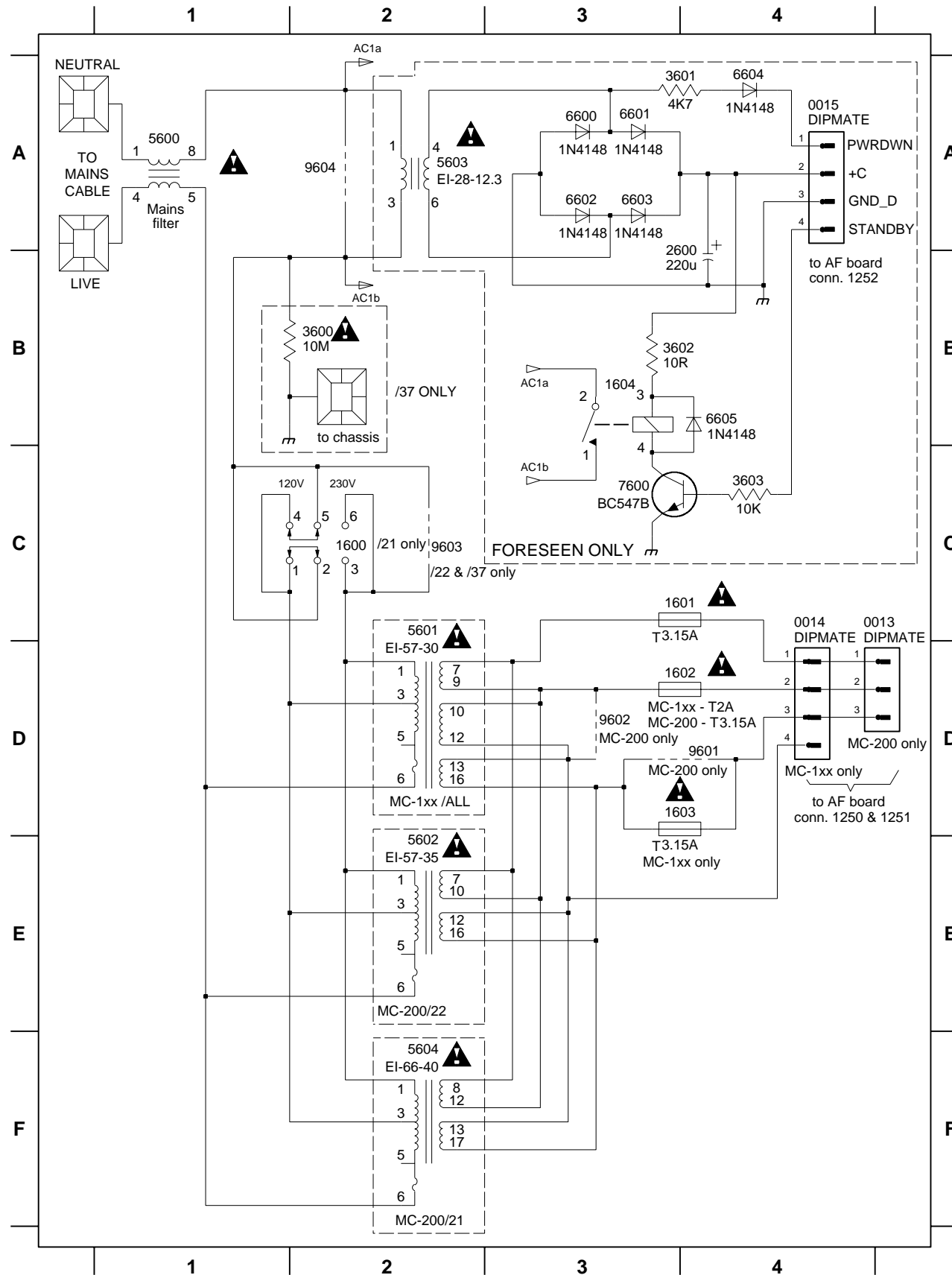


CIRCUIT DIAGRAM - POWER BOARD

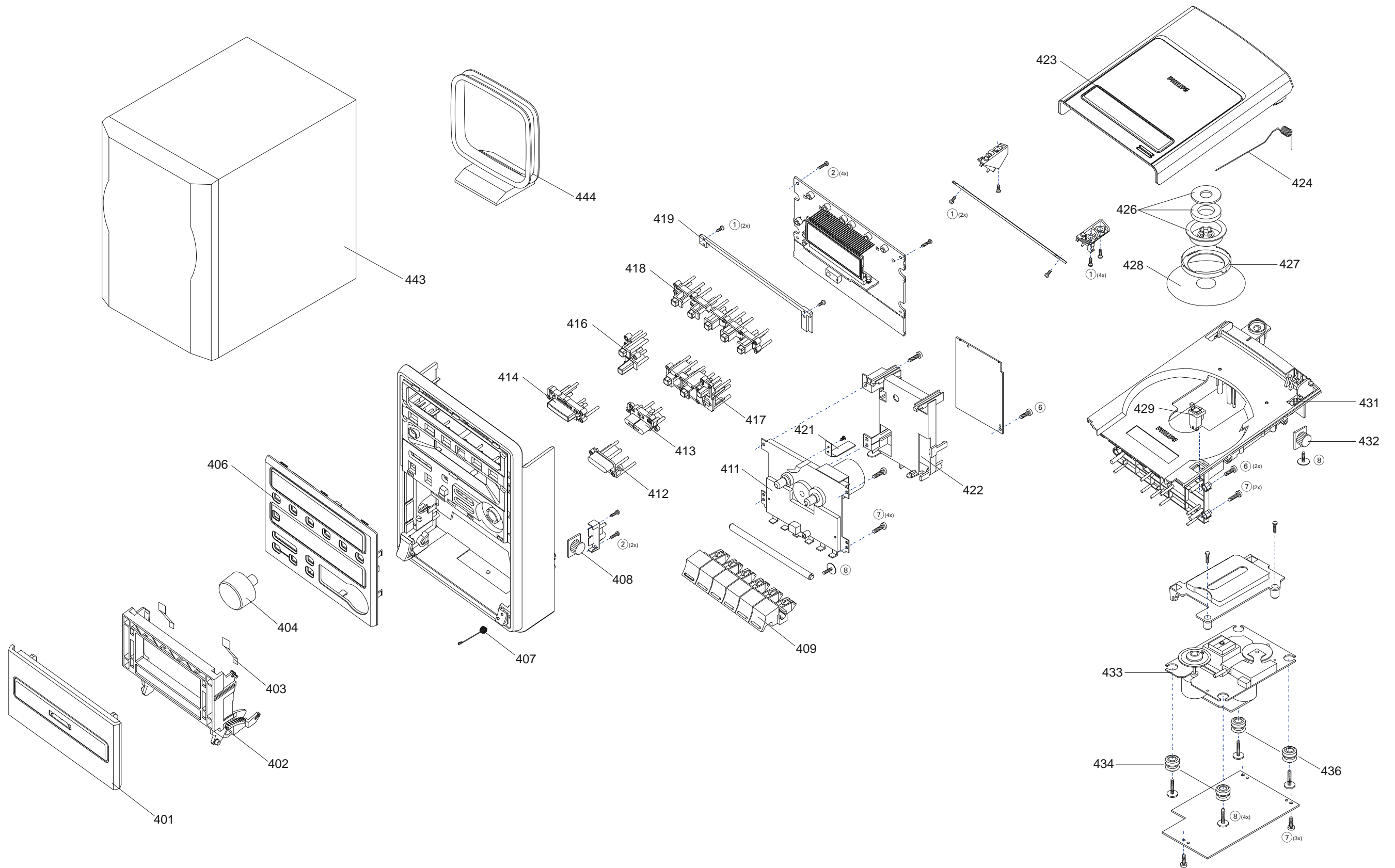
LAYOUT DIAGRAM - POWER BOARD

0013 C4	1600 C2	1603 D3	3600 B2	3603 C4	5602 E2	6600 A3	6603 A3	7600 C3	9603 C2
0014 C4	1601 C3	1604 B3	3601 A4	5600 A1	5603 A2	6601 A3	6604 A4	9601 D4	9604 A2
0015 A4	1602 D3	2600 B3	3602 B4	5601 C2	5604 F2	6602 A3	6605 B4	9602 D3	

0000 A9	0015 E1	1604 D4	3603 C1	5604 D4	6604 E3	9602 E6
0001 A9	1600 B2	2600 E2	5600 C4	6600 E2	6605 D4	9603 B2
0002 A9	1601 E5	3600 D1	5601 C5	6601 E1	7600 D1	9604 C2
0013 D4	1602 E6	3601 E3	5602 C5	6602 E1	9600 B3	
0014 E4	1603 E8	3602 E3	5603 C2	6603 E1	9601 E7	



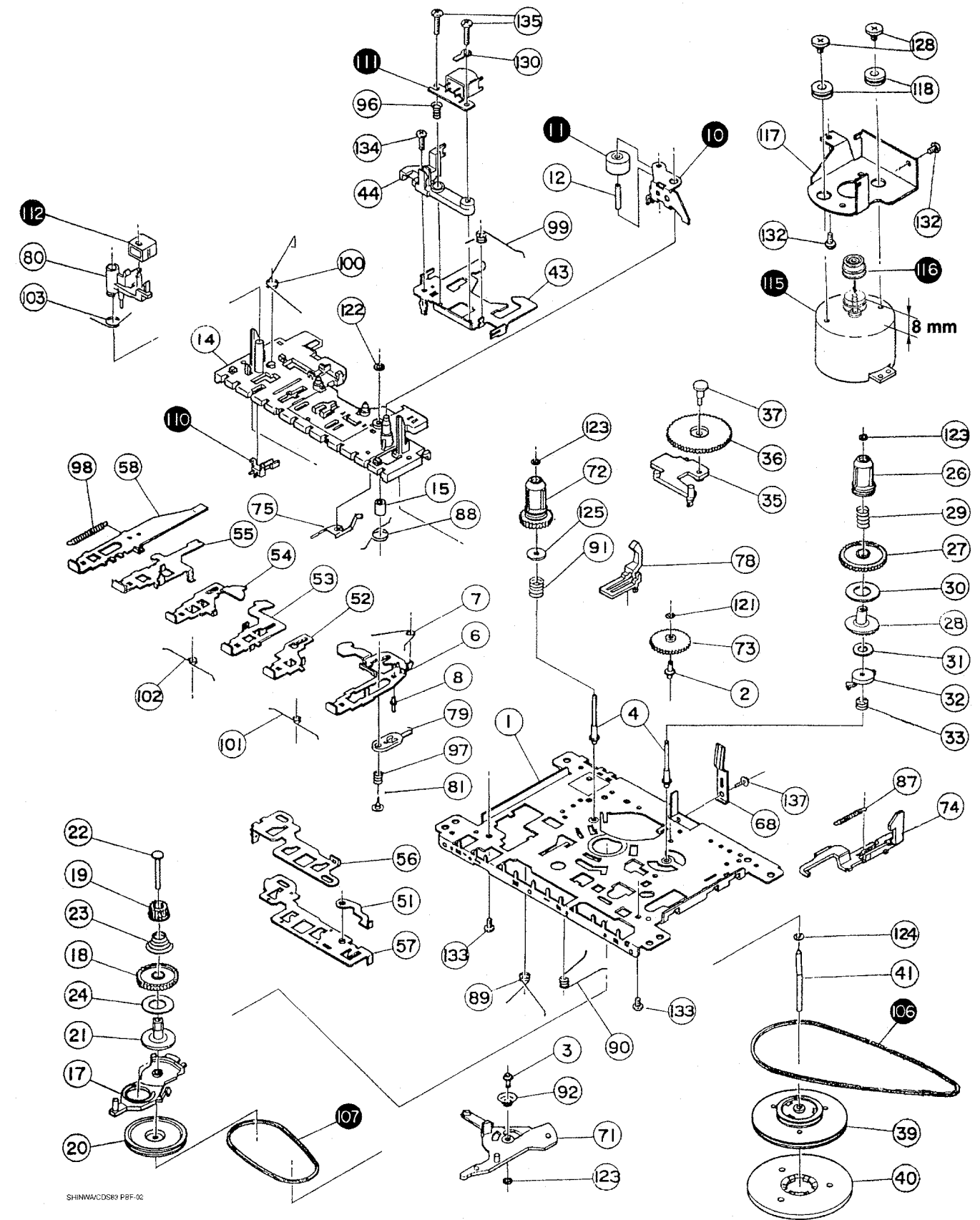
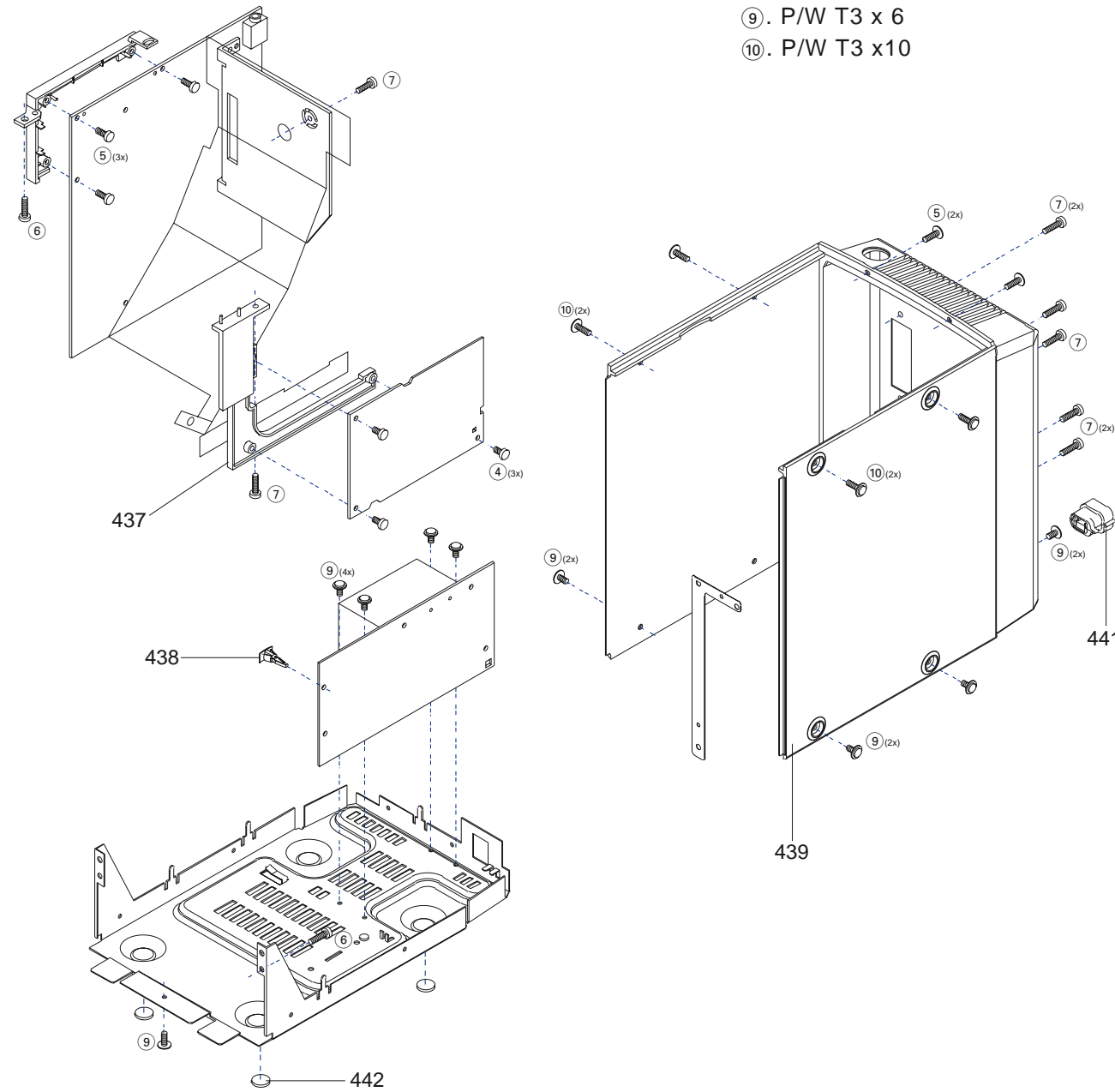
EXPLODED VIEW DIAGRAM



EXPLODED VIEW DIAGRAM - TAPE DECK (CDS-8 3-PBF-06)

SCREW LIST

- ①. T2 x 6
- ②. T2 x 10
- ③. T2.5 x 10
- ④. T3 x 6
- ⑤. T3 x 8
- ⑥. T3 x 10
- ⑦. T3 x 12
- ⑧. P/W C2.5 x 10
- ⑨. P/W T3 x 6
- ⑩. P/W T3 x 10



**MECHANICAL PARTSLIST - MAIN SET**

401	3140 117 65321	CASSETTE-DOOR ASSY	MC-120
401	3140 117 66081	CASSETTE DOOR ASSY	MC-130
402	4822 443 10215	DOOR CASSETTE	
403	4822 492 70231	SPRING-LEAF	
404	3140 117 65331	VOLUME KNOB CHROME	
406	3140 117 65581	FRONT PANEL ASSY	MC-120
406	3140 117 65311	FRONT PANEL ASSY	MC-120 (only for /22)
406	3140 117 66301	FRONT PANEL ASSY	MC-130
406	3140 117 66071	FRONT PANEL ASSY	MC-130 (only for /22)
407	4822 492 42709	SPRING-CASSETTE DOOR	
408	4822 529 10322	DAMPER ASSY	
409	3140 114 48141	CASSETTE KEY SET	MC-120
409	3140 114 60091	CASSETTE KEY SET	MC-130
411	4822 691 10633	CDS-83PBF-06	
412	3140 117 65421	KEYSET INCREDIBLE CHROME	
413	3140 117 65411	KEYSET DBB/DSC CHROME	
414	3140 117 65381	KEYSET PLAY PNT	MC-120
414	3140 117 66121	KEYSET PLAY PNT	MC-130
416	3140 117 65391	KEYSET POWER/SOURCE PNT	MC-120
416	3140 117 66131	KEYSET POWER/SOURCE PNT	MC-130
417	3140 117 65401	KEYSET NEXT/PREV PNT	MC-120
417	3140 117 66141	KEYSET NEXT/PREV PNT	MC-130
418	3140 117 65371	KEYSET UPPER PNT	MC-120
418	3140 117 66111	KEYSET UPPER PNT	MC-130
419	3140 110 51891	LIGHTBAR ASSEMBLY GREEN	MC-120
419	3140 110 51811	LIGHTBAR ASSEMBLY	MC-130
421	3140 111 20800	SPRING-RECORDING	
422	3140 114 20430	BRACKET ECO-MTF-SD	
423	3140 117 65291	CD-DOOR ASSY	MC-120
423	3140 117 68161	CD-DOOR ASSY	MC-130
424	3140 111 01511	SPRING-CD	
426	4822 532 12798	RING PRESSURE	
427	4822 532 13153	RING (CD LID)	
428	4822 535 60096	DISC	
429	4822 276 13963	CD DOOR SWITCH	
431	3140 114 48011	CD-TRAY	
432	4822 529 10322	DAMPER ASSY	
433	3103 309 05290	CD DA11N DRIVE ASSY	MC-120
434	4822 529 10387	DAMPER - RUBBER (40 DEG)	MC-120
436	4822 529 10386	DAMPER - RUBBER (30 DEG)	MC-120
437	3140 114 29310	TUNER BRACKET	
438	4822 466 93148	PCB SPACER	
439	3140 114 34750	REAR CABINET	
441	3140 113 21880	MAINS CORD RELIEF	
442	4822 462 40692	RUBBER STAND	

**MECHANICAL PARTSLIST - TAPE DECK**

	4822 528 11189	PINCH ROLLER ASSY	
10	4822 528 70849	PINCH ROLLER ARM(B)	
11	4822 528 70695	ROLLER	
74	4822 403 30792	EJECT HOOK(B)	
106	4822 358 31325	MAIN BELT 45.2 x 1.2	
107	4822 358 31124	SUB BELT 44.7 x 1.2	
110	4822 278 90721	LEAF SWITCH	
111	4822 249 30218	R/P HEAD MS18R	
112	4822 249 40306	ERASE HEAD	
115	4822 361 21656	MOTOR EG-530AD-9B	
116	4822 528 81497	MOTOR PULLEY	
131	4822 276 13712	LEAF SWITCH LSA1115B	

**Note: Only these parts mentioned in the list are normal service parts.**

**ACCESSORIES**

443	3140 118 51421	PACKED SPEAKER BOX ASSY	MC-120
443	3140 118 51451	PACKED SPEAKER BOX ASSY	MC-130
444	2422 549 45067	ANT AM LOOP LAN-006 B	
	3140 118 51060	REMOTE CONTROL	MC-120
	3140 118 51010	REMOTE CONTROL	MC-130
	4822 303 50063	AERIAL	

**ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD****- MISCELLANEOUS -**

1330	2422 026 05282	SOCKET PHONE 1P
1331	4822 267 31176	CONNECTOR
1401	4822 276 13775	SWITCH-PUSH
1402	4822 276 13775	SWITCH-PUSH
1403	4822 276 13775	SWITCH-PUSH
1404	4822 276 13775	SWITCH-PUSH
1405	4822 276 13775	SWITCH-PUSH
1406	4822 276 13775	SWITCH-PUSH
1407	4822 276 13775	SWITCH-PUSH
1408	4822 276 13775	SWITCH-PUSH
1409	4822 276 13775	SWITCH-PUSH
1410	4822 276 13775	SWITCH-PUSH
1411	4822 276 13775	SWITCH-PUSH
1412	4822 276 13775	SWITCH-PUSH
1413	4822 276 13775	SWITCH-PUSH
1414	4822 276 13775	SWITCH-PUSH
1415	2422 129 16545	ROT ENCODER 24P
1416	2422 025 14546	FFC Socket 16P
1418	4822 265 11207	FFC Socket 6P
1425	3140 110 51000	LCD PANEL
1550	4822 265 20553	CONNECTOR
1552	4822 267 10731	FFC Socket 6P
1554	4822 267 10731	FFC Socket 6P
1555	4822 265 11515	FFC Socket 8P
1556	2422 025 14526	FFC Socket 16P
8008	2422 070 98244	MAINSCORD 2,5A 1,8MHZ

**- CAPACITORS -**

2250	4822 124 41458	4700µF 20% 16V
2251	5322 121 42386	100nF 5% 63V
2252	5322 121 42386	100nF 5% 63V
2253	5322 121 42386	100nF 5% 63V
2254	5322 121 42386	100nF 5% 63V
2255	4822 124 81039	3300µF 20% 25V
2258	4822 124 40769	4,7µF 20% 100V
2259	4822 124 40769	4,7µF 20% 100V
2260	3198 017 34730	47nF X7R 16V
2261	4822 124 22652	2,2µF 20% 50V
2262	3198 016 31020	1nF NP0 25V
2263	4822 124 40433	47µF 20% 25V
2264	4822 124 40433	47µF 20% 25V
2330	4822 124 40769	4,7µF 20% 100V
2331	2238 786 19852	150nF +80-20% Y5V 16V
2332	2238 786 19852	150nF +80-20% Y5V 16V
2337	4822 121 42408	220nF 5% 63V
2338	4822 121 42408	220nF 5% 63V
2339	4822 121 42408	220nF 5% 63V
2340	4822 121 42408	220nF 5% 63V

**- CAPACITORS -**

2341	4822 124 40433	47µF 20% 25V
2342	4822 124 40433	47µF 20% 25V
2343	4822 122 33197	1nF 10% 50V
2344	4822 122 33197	1nF 10% 50V
2345	4822 126 14494	22nF 10% X7R 25V
2346	4822 126 14494	22nF 10% X7R 25V
2347	4822 124 40433	47µF 20% 25V
2348	4822 124 40433	47µF 20% 25V
2349	4822 124 40207	100µF 20% 25V
2350	4822 124 40207	100µF 20% 25V
2351	4822 124 40769	4,7µF 20% 100V
2352	4822 124 40433	47µF 20% 25V
2353	5322 126 11583	10nF 10% X7R 50V
2354	5322 126 11583	10nF 10% X7R 50V
2355	4822 124 40207	100µF 20% 25V
2400	5322 126 11583	10nF 10% X7R 50V
2401	5322 126 11583	10nF 10% X7R 50V
2402	4822 124 23432	100µF 20% 10V
2403	2238 586 59812	100nF +80-20% Y5V 50V
2404	4822 124 23432	100µF 20% 10V
2405	5322 126 11583	10nF 10% X7R 50V
2406	5322 126 11583	10nF 10% X7R 50V
2407	2238 586 59812	100nF +80-20% Y5V 50V
2408	2238 586 59812	100nF +80-20% Y5V 50V
2409	5322 126 11583	10nF 10% X7R 50V
2410	5322 126 11583	10nF 10% X7R 50V
2411	4822 122 33752	15pF 5% NP0 50V
2412	4822 122 33752	15pF 5% NP0 50V
2413	4822 126 11785	47pF 5% NP0 50V
2414	5322 126 11583	10nF 10% X7R 50V
2415	4822 126 11669	27pF
2416	4822 126 11669	27pF
2417	4822 124 40433	47µF 20% 25V
2418	5322 126 11578	1nF 10% X7R 50V
2419	2238 586 59812	100nF +80-20% Y5V 50V
2420	5322 126 11583	10nF 10% X7R 50V
2421	5322 126 11583	10nF 10% X7R 50V
2422	2020 552 94427	100pF 5% NP0 50V
2423	2020 552 94427	100pF 5% NP0 50V
2431	4822 126 13193	4,7nF10% X7R 63V
2432	2020 552 94427	100pF 5% NP0 50V
2433	4822 126 13881	470pF 5% 50V
2434	2020 552 94427	100pF 5% NP0 50V
2435	4822 126 13881	470pF 5% 50V
2436	4822 126 13881	470pF 5% 50V
2437	4822 126 13881	470pF 5% 50V
2438	4822 126 13881	470pF 5% 50V
2439	4822 126 13881	470pF 5% 50V
2440	4822 126 14238	2,2nF X7R 50V
2441	5322 126 11583	10nF 10% X7R 50V

**ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD****- CAPACITORS -**

2442	4822 126 13883	220pF 5% 50V
2443	4822 126 13883	220pF 5% 50V
2444	4822 126 13883	220pF 5% 50V
2445	4822 126 13883	220pF 5% 50V
2446	5322 126 11583	10nF 10% X7R 50V

2449	4822 126 13881	470pF 5% 50V
2450	4822 126 13881	470pF 5% 50V
2451	4822 126 13881	470pF 5% 50V
2500	4822 124 41584	100µF 20% 10V
2501	4822 124 40196	220µF 20% 16V

2502	4822 124 40248	10µF 20% 63V
2503	4822 126 14494	22nF 10% X7R 25V
2505	2020 552 94427	100pF 5% NP0 50V
2506	2020 552 94427	100pF 5% NP0 50V
2507	2020 552 94427	100pF 5% NP0 50V

2508	2020 552 94427	100pF 5% NP0 50V
2509	4822 122 33761	22pF 5% NP0 50V
2510	4822 122 33761	22pF 5% NP0 50V
2511	4822 126 13879	220nF +80-20% 16V
2512	4822 126 13879	220nF +80-20% 16V

2513	4822 126 11785	47pF 5% NP0 50V
2514	4822 126 11785	47pF 5% NP0 50V
2515	5322 126 11583	10nF 10% X7R 50V
2516	5322 126 11583	10nF 10% X7R 50V
2517	4822 126 14247	1,5nF X7R 50V

2518	4822 126 14247	1,5nF X7R 50V
2519	4822 126 13883	220pF 5% 50V
2520	4822 126 13883	220pF 5% 50V
2521	4822 126 14247	1,5nF X7R 50V
2522	4822 126 14247	1,5nF X7R 50V

2523	3198 016 36810	680pF NP0 25V
2524	3198 016 36810	680pF NP0 25V
2525	4822 126 11785	47pF 5% NP0 50V
2526	4822 126 11785	47pF 5% NP0 50V
2527	5322 126 11583	10nF 10% X7R 50V

2528	5322 126 11583	10nF 10% X7R 50V
2529	2238 586 59812	100nF +80-20% Y5V 50V
2530	2238 586 59812	100nF +80-20% Y5V 50V
2531	2238 586 59812	100nF +80-20% Y5V 50V
2532	2238 586 59812	100nF +80-20% Y5V 50V

2533	2238 586 59812	100nF +80-20% Y5V 50V
2534	2238 586 59812	100nF +80-20% Y5V 50V
2535	2238 586 59812	100nF +80-20% Y5V 50V
2550	4822 126 11585	22nF +80-20% Y5V 25V
2551	4822 126 14238	2,2nF X7R 50V

2552	4822 126 14238	2,2nF X7R 50V
2553	4822 126 14494	22nF 10% X7R 25V
2554	4822 124 40196	220µF 20% 16V
2555	4822 124 22652	2,2µF 20% 50V
2557	3198 017 44740	470nF Y5V 10V

**- CAPACITORS -**

2558	4822 126 13883	220pF 5% 50V
2559	4822 126 13883	220pF 5% 50V
2560	4822 126 13883	220pF 5% 50V
2561	4822 124 81151	22µF 50V
2563	4822 124 41407	0,47µF 20% 63V

2564	4822 124 41407	0,47µF 20% 63V
2565	2020 552 94427	100pF 5% NP0 50V
2566	2020 552 94427	100pF 5% NP0 50V
2567	4822 124 22652	2,2µF 20% 50V
2568	4822 124 22652	2,2µF 20% 50V

2569	4822 124 21913	1µF 20% 63V
2570	4822 124 21913	1µF 20% 63V
2571	3198 017 44740	470nF Y5V 10V
2573	2238 586 59812	100nF +80-20% Y5V 50V

**- RESISTORS -**

3252	4822 051 20472	4,7K 5% 0,1W
3253	4822 051 20472	4,7K 5% 0,1W
3254	4822 117 11449	2,2K 5% 0,1W
3255	4822 050 11002	1K 1% 0,4W
3256	4822 050 11002	1K 1% 0,4W

3257	4822 050 11002	1K 1% 0,4W
3258	4822 116 83884	47K 5% 0,5W
3259	4822 051 30331	330R 5% 0,062W
3260	4822 117 12891	220K 1%
3261	4822 117 12864	82K 5% 0,6W

3262	4822 051 10102	1K 2% 0,25W
3263	4822 051 30102	1K 5% 0,062W
3266	4822 117 12925	47K 1% 0,063W
3267	4822 117 11449	2,2K 5% 0,1W
3268	4822 117 11449	2,2K 5% 0,1W

3269	4822 051 30223	22K 5% 0,062W
3271	4822 050 24708	4,7R 1% 0,6W
3272	4822 050 24708	4,7R 1% 0,6W
3273	4822 050 24708	4,7R 1% 0,6W
3274	4822 051 20391	390R 5% 0,1W

3275	4822 116 83883	470R 5% 0,5W
3276	4822 051 30222	2,2K 5% 0,062W
3277	4822 051 30222	2,2K 5% 0,062W
3278	4822 117 12925	47K 1% 0,063W
3279	4822 051 30102	1K 5% 0,062W

3280	4822 116 52257	22K 5% 0,5W
3281	4822 117 11449	2,2K 5% 0,1W
3330	4822 116 52269	3,3K 5% 0,5W
3331	4822 050 21003	10K 1% 0,6W
3332	4822 050 21003	10K 1% 0,6W

**ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD****- RESISTORS -**

3333	4822 051 30682	6,8K 5% 0,062W
3334	4822 051 30682	6,8K 5% 0,062W
3335	4822 051 20228	2,2R 5% 0,1W
3336	4822 051 20228	2,2R 5% 0,1W
3337	4822 051 20228	2,2R 5% 0,1W
3338	4822 051 20228	2,2R 5% 0,1W
3339	4822 117 12521	68R 1% 0,1W
3340	4822 117 12521	68R 1% 0,1W
3341	4822 116 52283	4,7K 5% 0,5W
3342	4822 116 52283	4,7K 5% 0,5W
3343	4822 051 30103	10K 5% 0,062W
3344	4822 051 30103	10K 5% 0,062W
3345	4822 051 30103	10K 5% 0,062W
3346	4822 051 30103	10K 5% 0,062W
3347	4822 051 30223	22K 5% 0,062W
3348	4822 051 30223	22K 5% 0,062W
3349	4822 051 30223	22K 5% 0,062W
3350	4822 117 12925	47K 1% 0,063W
3351	4822 051 10102	1K 2% 0,25W
3352	4822 051 10102	1K 2% 0,25W
3353	4822 051 20479	47R 5% 0,1W
3358	4822 051 30472	4,7K 5% 0,062W
3359	4822 051 30682	6,8K 5% 0,062W
3360	4822 117 13632	100K 1% 0,62W
3361	4822 117 11373	100R 1% RC12H
3362	4822 051 20182	1,8K 5% 0,1W
3363	4822 051 30103	10K 5% 0,062W
3364	4822 051 20391	390R 5% 0,1W
3365	4822 117 11504	270R 1% 0,1W
3400	4822 051 30109	10R 5% 0,062W
3401	4822 116 52182	15R 5% 0,5W
3402	4822 116 52175	100R 5% 0,5W
3403	4822 051 30682	6,8K 5% 0,062W
3404	4822 051 30332	3,3K 5% 0,062W
3405	4822 051 30102	1K 5% 0,062W
3406	4822 117 13632	100K 1% 0,62W
3407	4822 051 30102	1K 5% 0,062W
3408	4822 051 30474	470K 5% 0,062W
3409	4822 051 30103	10K 5% 0,062W
3410	4822 051 30101	100R 5% 0,062W
3411	4822 117 13632	100K 1% 0,62W
3412	4822 051 30103	10K 5% 0,062W
3413	4822 051 30102	1K 5% 0,062W
3414	4822 051 30333	33K 5% 0,062W
3415	4822 051 30153	15K 5% 0,062W
3416	4822 116 83872	220R 5% 0,5W
3417	4822 051 30153	15K 5% 0,062W
3418	4822 051 30152	1,5K 5% 0,062W
3419	4822 051 30152	1,5K 5% 0,062W
3420	4822 050 21003	10K 1% 0,6W

**- RESISTORS -**

3421	4822 051 30562	5,6K 5% 0,063W
3422	4822 051 30471	470R 5% 0,062W
3423	4822 051 30102	1K 5% 0,062W
3424	4822 051 30152	1,5K 5% 0,062W
3425	4822 051 30222	2,2K 5% 0,062W
3426	4822 116 52269	3,3K 5% 0,5W
3427	4822 051 30562	5,6K 5% 0,063W
3428	4822 051 30103	10K 5% 0,062W
3429	4822 051 30103	10K 5% 0,062W
3430	4822 051 30562	5,6K 5% 0,063W
3431	4822 051 30471	470R 5% 0,062W
3432	4822 051 30102	1K 5% 0,062W
3433	4822 051 30152	1,5K 5% 0,062W
3434	4822 051 30222	2,2K 5% 0,062W
3435	4822 051 30332	3,3K 5% 0,062W
3436	4822 051 30562	5,6K 5% 0,063W
3437	4822 051 30223	22K 5% 0,062W
3438	4822 051 30223	22K 5% 0,062W
3439	4822 051 30102	1K 5% 0,062W
3440	4822 050 11002	1K 1% 0,4W
3441	4822 051 30102	1K 5% 0,062W
3449	4822 051 30223	22K 5% 0,062W
3450	4822 051 30103	10K 5% 0,062W
3451	4822 051 30471	470R 5% 0,062W
3452	4822 051 30103	10K 5% 0,062W
3453	4822 051 30102	1K 5% 0,062W
3454	4822 051 30102	1K 5% 0,062W
3455	4822 051 30102	1K 5% 0,062W
3456	4822 051 30102	1K 5% 0,062W
3457	4822 050 21003	10K 1% 0,6W
3458	4822 051 30102	1K 5% 0,062W
3459	4822 051 30221	220R 5% 0,062W
3460	4822 051 30471	4,7K 5% 0,062W
3461	4822 051 30472	4,7K 5% 0,062W
3462	4822 051 30472	4,7K 5% 0,062W
3463	4822 051 30472	4,7K 5% 0,062W
3464	4822 051 30472	4,7K 5% 0,062W
3465	4822 051 30472	4,7K 5% 0,062W
3466	4822 051 30472	4,7K 5% 0,062W
3467	4822 051 30222	2,2K 5% 0,062W
3468	4822 051 30222	2,2K 5% 0,062W
3469	4822 051 30471	470R 5% 0,062W
3470	4822 116 52263	2,7K 5% 0,5W
3471	4822 051 30333	33K 5% 0,062W
3472	4822 051 30474	470K 5% 0,062W
3473	4822 051 30472	4,7K 5% 0,062W
3474	4822 051 30102	1K 5% 0,062W
3475	4822 051 30331	330R 5% 0,062W
3476	4822 051 30471	470R 5% 0,062W
3477	4822 051 30471	470R 5% 0,062W

**ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD****- RESISTORS -**

3478	4822 051 30471	470R 5% 0,062W
3479	4822 051 30471	470R 5% 0,062W
3480	4822 051 30102	1K 5% 0,062W
3481	4822 051 30471	470R 5% 0,062W
3482	4822 051 30102	1K 5% 0,062W
3483	4822 051 30153	15K 5% 0,062W
3484	4822 051 30103	10K 5% 0,062W
3485	4822 051 30222	2,2K 5% 0,062W
3486	4822 051 30101	100R 5% 0,062W
3487	4822 051 30222	2,2K 5% 0,062W
3488	4822 051 30101	100R 5% 0,062W
3489	4822 051 30102	1K 5% 0,062W
3490	4822 051 30102	1K 5% 0,062W
3491	4822 051 30102	1K 5% 0,062W
3492	4822 051 30102	1K 5% 0,062W
3493	4822 051 30102	1K 5% 0,062W
3494	4822 051 30102	1K 5% 0,062W
3495	4822 051 30563	56K 5% 0,062W
3496	4822 051 30563	56K 5% 0,062W
3498	4822 051 30103	10K 5% 0,062W
3499	4822 051 30223	22K 5% 0,062W
3500	4822 117 12968	820R 5% 0,62W
3501	4822 051 30471	470R 5% 0,062W
3502	4822 116 52256	2,2K 5% 0,5W
3503	4822 051 30471	470R 5% 0,062W
3505	4822 051 20333	33K 5% 0,1W
3506	4822 051 20333	33K 5% 0,1W
3507	4822 117 12971	15R 5% 0,62W
3508	4822 117 12971	15R 5% 0,62W
3509	4822 051 20333	33K 5% 0,1W
3510	4822 051 20333	33K 5% 0,1W
3511	4822 117 13632	100K 1% 0,62W
3512	4822 117 13632	100K 1% 0,62W
3513	4822 051 30153	15K 5% 0,062W
3514	4822 051 30153	15K 5% 0,062W
3515	4822 051 30333	33K 5% 0,062W
3516	4822 051 30333	33K 5% 0,062W
3517	4822 117 13632	100K 1% 0,62W
3518	4822 117 13632	100K 1% 0,62W
3519	4822 117 12891	220K 1%
3520	4822 117 12891	220K 1%
3521	4822 050 23303	33K 1% 0,6W
3522	4822 050 23303	33K 1% 0,6W
3523	4822 050 23303	33K 1% 0,6W
3524	4822 050 23303	33K 1% 0,6W
3525	4822 117 12891	220K 1%
3526	4822 117 12891	220K 1%
3527	4822 117 12891	220K 1%
3528	4822 117 12891	220K 1%
3529	4822 116 52264	27K 5% 0,5W

**- RESISTORS -**

3530	4822 116 52264	27K 5% 0,5W
3531	4822 116 52264	27K 5% 0,5W
3532	4822 116 52264	27K 5% 0,5W
3533	4822 051 30333	33K 5% 0,062W
3534	4822 051 30333	33K 5% 0,062W
3535	4822 117 13632	100K 1% 0,62W
3536	4822 117 13632	100K 1% 0,62W
3537	4822 117 12891	220K 1%
3538	4822 117 12891	220K 1%
3539	4822 051 30223	22K 5% 0,062W
3540	4822 051 30223	22K 5% 0,062W
3541	4822 117 12891	220K 1%
3542	4822 117 12891	220K 1%
3543	4822 117 12864	82K 5% 0,6W
3544	4822 117 12864	82K 5% 0,6W
3545	4822 051 30472	4,7K 5% 0,062W
3546	4822 051 30472	4,7K 5% 0,062W
3547	4822 051 30154	150K 5% 0,062W
3548	4822 051 30154	150K 5% 0,062W
3551	4822 051 30393	39K 5% 0,062W
3552	4822 051 30393	39K 5% 0,062W
3553	4822 051 30682	6,8K 5% 0,062W
3554	4822 051 30682	6,8K 5% 0,062W
3555	4822 051 30223	22K 5% 0,062W
3556	4822 051 30223	22K 5% 0,062W
3557	4822 051 30333	33K 5% 0,062W
3558	4822 051 30333	33K 5% 0,062W
3559	4822 051 30332	3,3K 5% 0,062W
3560	4822 051 30332	3,3K 5% 0,062W
3561	4822 116 52244	15K 5% 0,5W
3562	4822 116 52244	15K 5% 0,5W
3563	4822 117 11373	100R 1%
3565	4822 051 20109	10R 5% 0,1W
3566	4822 051 20109	10R 5% 0,1W
3567	4822 051 20109	10R 5% 0,1W
3568	4822 051 10102	1K 2% 0,25W
3572	4822 051 30103	10K 5% 0,062W
3573	4822 050 11002	1K 1% 0,4W
3574	4822 117 12925	47K 1% 0,063W
3575	4822 051 30153	15K 5% 0,062W
3576	4822 051 30153	15K 5% 0,062W
3577	4822 051 30471	470R 5% 0,062W
3578	4822 051 30471	470R 5% 0,062W
3579	4822 051 30154	150K 5% 0,062W
3580	4822 051 30154	150K 5% 0,062W
3581	4822 051 30272	2,7K 5% 0,062W
3582	4822 051 30272	2,7K 5% 0,062W
3583	4822 051 30472	4,7K 5% 0,062W
3584	4822 051 30472	4,7K 5% 0,062W
3585	4822 051 30222	2,2K 5% 0,062W



**ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD****- RESISTORS -**

3586	4822 051 30222	2,2K 5% 0,062W
3587	4822 051 30392	3,9K 5% 0,063W
3588	4822 051 30392	3,9K 5% 0,063W
3589	4822 116 83872	120R 5% 0,1W
3901	4822 051 20121	120R 5% 0,1W
3902	4822 051 20121	120R 5% 0,1W
3903	4822 051 20121	120R 5% 0,1W
3904	4822 051 20121	120R 5% 0,1W
3905	4822 117 12521	68R 1% 0,1W
4250	4822 051 10008	0R 5% 0,25W
4260	4822 051 10008	0R 5% 0,25W
4261	4822 051 10008	0R 5% 0,25W
4263	4822 051 10008	0R 5% 0,25W
4264	4822 051 10008	0R 5% 0,25W
4265	4822 051 10008	0R 5% 0,25W
4333	4822 051 20008	0R J UMPER(0805)
4334	4822 051 20008	0R J UMPER(0805)
4335	4822 051 20008	0R J UMPER(0805)
4401	4822 051 30008	0R J UMPER
4410	4822 051 10008	0R 5% 0,25W
4411	4822 051 10008	0R 5% 0,25W
4412	4822 051 30008	0R J UMPER
4413	4822 051 30008	0R J UMPER
4414	4822 051 10008	0R 5% 0,25W
4415	4822 051 10008	0R 5% 0,25W
4416	4822 051 30008	0R J UMPER
4419	4822 051 30008	0R J UMPER
4420	4822 051 30008	0R J UMPER
4510	4822 051 10008	0R 5% 0,25W
4512	4822 051 20008	0R J UMPER(0805)
4513	4822 051 20008	0R J UMPER(0805)
4560	4822 051 10008	0R 5% 0,25W
4561	4822 051 20008	0R J UMPER(0805)
4562	4822 051 10008	0R 5% 0,25W
4563	4822 051 10008	0R 5% 0,25W
4564	4822 051 10008	0R 5% 0,25W
4565	4822 051 10008	0R 5% 0,25W
4566	4822 051 20008	0R J UMPER(0805)
4567	4822 051 10008	0R 5% 0,25W
4568	4822 051 20008	0R J UMPER(0805)
4569	4822 051 10008	0R 5% 0,25W
4570	4822 051 20008	0R J UMPER(0805)
4571	4822 051 10008	0R 5% 0,25W
4572	4822 051 20008	0R J UMPER(0805)
4573	4822 051 10008	0R 5% 0,25W

**- COILS & FILTERS -**

5331	4822 157 11837	0,36µH 10%
5332	4822 157 11837	0,36µH 10%
5333	4822 157 11837	0,36µH 10%
5334	4822 157 11837	0,36µH 10%
5400	3198 018 11580	1,5µH 5%
5401	3198 018 11580	1,5µH 5%
5402	2422 540 98518	8MHZ CSTS* MG03
5403	2422 543 01069	RES XTL 32KHZ768
5550	4822 157 10686	CHOKE COIL 0,47µF
5551	4822 157 10686	CHOKE COIL 0,47µF
5600	4822 157 11832	FILTER, MAINS

**- DIODES -**

6250	4822130 31878	1N4003G
6251	4822130 31878	1N4003G
6252	4822130 31878	1N4003G
6253	4822130 31878	1N4003G
6254	4822 130 31878	1N4003G
6255	4822 130 31878	1N4003G
6259	4822130 31878	1N4003G
6260	4822130 31878	1N4003G
6261	4822 130 31878	1N4003G
6265	4822 130 31878	1N4003G
6269	4822130 30621	1N4148
6270	4822130 30621	1N4148
6271	4822130 34278	BZX79-B6V8
6272	4822 130 61219	BZX79-B10
6275	3198 010 53380	BZX79-B3V3
6331	4822130 30621	1N4148
6332	4822 130 30621	1N4148
6333	4822130 30621	1N4148
6334	9337 127 10673	BZX55-B11
6400	4822 130 30621	1N4148
6401	4822 130 30621	1N4148
6500	4822 130 30621	1N4148
6550	3198010 53380	BZX79-B3V3
6901	9322 033 20682	LED TLHG4405
6902	9322 033 20682	LED TLHG4405
6903	9322 033 20682	LED TLHG4405
6904	9322 033 20682	LED TLHG4405
6905	9322 033 20682	LED TLHG4405
6906	9322 033 20682	LED TLHG4405
6907	9322 033 20682	LED TLHG4405
6908	9322 033 20682	LED TLHG4405
6909	9322 033 20682	LED TLHG4405
6910	9322 033 20682	LED TLHG4405
6911	9322 033 20682	LED TLHG4405
6912	9322 033 20682	LED TLHG4405

**ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD****- IC & TRANSISTORS -**

7250	9322 139 24687	BDW94CFP
7251	5322 130 60159	BC846B
7252	5322 130 60159	BC846B
7254	5322 130 44593	BC369
7255	5322 130 60159	BC846B
7256	4822 130 41246	BC327-25
7257	4822 130 41246	BC327-25
7258	4822 130 41246	BC327-25
7259	5322 130 60159	BC846B
7260	5322 130 60845	BC807-25
7261	5322 130 60159	BC846B
7330	9322 133 18682	AN7125P
7331	4822 130 60373	BC856B
7332	4822 130 60373	BC856B
7333	5322 130 60159	BC846B
7335	9322 143 35687	BDW93CFP
7400	3140 110 51781	TMP87CP23F
7402	5322 130 60159	BC846B
7403	5322 130 60159	BC846B
7404	9322 155 82667	TSOP2236
7405	9322 140 83682	M24C01-BN6
7500	4822 209 10264	HEF4069UBP
7501	4822 130 44568	BC557B
7502	4822 130 44568	BC557B
7503	4822 130 44568	BC557B
7504	4822 130 44568	BC557B
7505	5322 130 60159	BC846B
7506	5322 130 60159	BC846B
7507	5322 130 60159	BC846B
7508	5322 130 60159	BC846B
7509	5322 130 60159	BC846B
7510	5322 130 60159	BC846B
7511	5322 130 60159	BC846B
7512	5322 130 60159	BC846B
7513	5322 130 60159	BC846B
7514	5322 130 60159	BC846B
7550	4822 130 42804	BC817-25
7551	4822 209 10263	HEF4052BP
7552	5322 209 10421	HEF4094BP
7553	4822 130 41327	BC327-40
7555	5322 130 60159	BC846B
7556	5322 130 60159	BC846B

**- MISCELLANEOUS -**

6	4822 492 71733	CLAMP
7	4822 255 40179	CLIP
9	3140 114 29180	LCD HOLDER
351	3140 118 51060	REMOTE CONTROL
1000	3103 309 05290	CD DA11N DRIVE ASSY
1600	4822 272 10269	MAINS SWITCH
1601	⚠ 4822 071 53152	FUSE 3,15A
1602	⚠ 4822 071 53152	FUSE 3,15A
1603	⚠ 4822 071 53152	FUSE 3,15A
5601	⚠ 3140 118 32400	MAINS TRANSFORMER 230V
5601	⚠ 3140 118 32410	MAINS TRANSFORMER 120/23
5601	⚠ 3140 118 32420	MAINS TRANSFORMER 120V
8000	3140 110 22351	FFC FOIL 16P/280/16P AD
8001	3140 110 21220	FFC FOIL 06P/220/6P AD
8003	3140 110 21190	FFC FOIL 6P/140/6P AD
8005	3140 110 21210	FFC FOIL 6P/220/6P AD
8007	3140 110 21240	FFC FOIL 8P/180/8P AD
8008	2422 070 98244	MAINS CORD SET(/21/21M/22)
8008	2422 070 98204	MAINS CORD SET(/30)
8008	2422 070 98203	MAINS CORD SET(/37)
8008	4822 321 10941	MAINS CORD SET(/25)
8800	4822 320 12178	FLEXIBLE FOIL

**Note: Only these parts mentioned in the list are normal service parts.**



**ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Cenelec)****COILS AND FILTERS**

5102	4822 157 71634	MW Aerial Coil
5103	2422 549 44107	LW Aerial Coil
5109	4822 157 71639	FM IF SFE10,7MJ A10H-A
5110	4822 242 70665	FM IF SFE10,7MS3-A
5111	2422 549 44023	AM IF 7PY 450KHZ
5112	4822 157 70302	AM IF F7MCS-12216N
5114	4822 157 70302	AM IF F7MCS-12216N
5115	4822 157 71636	Birdie Filter Coil
5118	2422 535 95881	Inductor 0,1 $\mu$ H 5%
5119	4822 157 11443	FM Disc 2,4 $\mu$ H 10,7MHz
5121	4822 242 10261	Crystal 75KHz T6252F00
5122	2422 549 44108	MW Osc Coil
5123	2422 549 44108	LW Osc Coil

**DIODES**

6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6120	4822 130 83757	BAS216

**TRANSISTORS & IC**

7101	9351 772 20557	TEA5762H/V1
7103	5322 130 42756	BC857C
7104	4822 130 40855	BC337
7105	4822 130 40855	BC337
7109	4822 130 60373	BC856B
7110	4822 130 60373	BC856B
7112	4822 130 44503	BC547C
7122	5322 130 42755	BC847C
7124	5322 130 42755	BC847C

**ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Non cenelec)****MISCELLANEOUS**

1102	4822 267 10283	FM Ant. Socket
1103	4822 265 31184	AM Ant. Socket
1120	4822 265 11515	FFC Socket 8P

**CAPACITORS**

2101	4822 122 33777	47pF 5% NP0 63V
2102	4822 126 14305	100nF 10% X7R 16V
2103	5322 126 11578	1nF 10% X7R 50V
2104	4822 122 31765	100pF 2% NP0 63V
2106	2020 800 00191	CTRM 3P-11P N450
2107	4822 121 51319	1µF 10% 63V
2120	4822 126 14507	18pF 5% 50V
2124	4822 126 14494	22nF 10% X7R 25V
2125	2238 861 18561	560pF 1% NP0 50V
2126	4822 126 14241	330pF 10% NP0 50V
2127	4822 126 13879	220nF +80-20% 16V
2128	4822 124 40248	10µF 20% 63V
2129	4822 124 41584	100µF 20% 10V
2130	4822 126 14494	22nF 10% X7R 25V
2131	3198 017 44740	470nF +80-20% 10V
2132	3198 017 44740	470nF +80-20% 10V
2133	4822 124 21913	1µF 20% 63V
2134	3198 017 31530	15nF 20% X7R 50V
2135	3198 017 31530	15nF 20% X7R 50V
2136	4822 126 13879	220nF +80-20% 16V
2137	4822 126 13879	220nF +80-20% 16V
2138	4822 124 22652	2,2µF 20% 50V
2139	4822 122 33752	15pF 5% NP0 50V
2140	4822 126 14226	82pF 5% NP0 50V
2141	4822 126 14305	100nF 10% X7R 16V
2143	4822 126 13879	220nF +80-20% 16V
2144	4822 124 21913	1µF 20% 63V
2145	4822 126 13883	220pF 5% 50V
2146	4822 126 13883	220pF 5% 50V
2147	4822 126 13883	220pF 5% 50V
2148	4822 126 14238	2,2nF 10% X7R 50V
2150	4822 126 14585	100nF 10% X7R 50V
2152	4822 126 14549	33nF 10% 16V
2153	4822 122 33752	15pF 5% NP0 50V
2155	2020 800 00191	CTRM 3P-11P N450
2159	4822 126 11671	33pF 1% 50V
2164	3198 017 44740	470nF +80-20% 10V
2165	4822 126 14305	100nF 10% X7R 16V
2166	5322 126 11578	1nF 10% X7R 50V
2167	4822 126 11663	12pF 1% 50V

**RESISTORS**

3101	4822 051 30333	33K 5% 0,1W
3102	4822 117 13632	100K 1% 0,62W
3103	4822 117 12902	8K2 1% 0,1W
3104	4822 117 13577	330R 1% 0,25W
3105	4822 051 30221	220R 5% 0,1W
3132	4822 051 30479	47R 5% 0,1W
3134	4822 051 30223	22K 5% 0,1W
3141	4822 051 30563	56K 5% 0,1W
3142	4822 100 12159	100K 30% Var.
3145	4822 051 30222	2K2 5% 0,1W
3146	4822 117 12139	22R 5% 0,1W
3152	4822 051 30471	470R 5% 0,1W
3153	4822 051 30471	470R 5% 0,1W
3154	4822 051 30331	330R 5% 0,1W
3155	4822 051 30221	220R 5% 0,1W
3156	4822 117 13632	100K 1% 0,62W
3158	4822 051 30471	470R 5% 0,1W
3159	4822 051 30471	470R 5% 0,1W
3160	4822 051 30471	470R 5% 0,1W
3161	4822 051 20223	22K 5% 0,1W
3167	4822 051 20121	120R 5% 0,1W
3168	4822 051 30121	120R 5% 0,1W
3169	4822 051 30154	150K 5% 0,1W
3170	4822 117 13632	100K 1% 0,62W
3172	4822 051 30562	5K6 5% 0,1W
3181	4822 051 30102	1K 5% 0,1W
4103	4822 051 30008	0R J umper 0603
4106	4822 051 20008	0R J umper 0805
4107	4822 051 30008	0R J umper 0603
4108	4822 051 30008	0R J umper 0603
<b>COILS AND FILTERS</b>		
5102	4822 157 71634	MW Aerial Coil
5109	4822 242 70665	FM IF SFE10,7MS3-A
5110	4822 242 70665	FM IF SFE10,7MS3-A
5111	2422 549 44023	AM IF 7PY 450KHZ
5112	4822 157 70302	AM IF F7MCS-12216N
5114	4822 157 70302	AM IF F7MCS-12216N
5119	4822 157 11443	FM Disr 2,4µH 10,7MHz
5121	4822 242 10261	Crystal 75KHz T6252F00
5123	2422 549 44108	MW Osc Coil
5130	4822 157 11843	FM RF Coil
5131	4822 157 11843	FM RF Coil

**ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Non cenelec)**

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**DIODES**

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6103	5322 130 34337	BAV99
6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228

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**TRANSISTORS & IC**

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7101	9351 740 80557	TEA5757H/V1
7102	4822 130 42131	BF550
7111	5322 130 42755	BC847C
7112	4822 130 40959	BC547B

**ELECTRICAL PARTSLIST - ECO-MTF BOARD****- MISCELLANEOUS -**

1707	4822 277 11504	SWITCH-PUSH
1725	4822 265 11207	CONNECTOR SOCKET 6P

**- CAPACITORS -**

2700	4822 124 21913	1µF 20% 63V
2701	4822 124 21913	1µF 20% 63V
2703	4822 124 81151	22µF 50V
2704	4822 124 81151	22µF 50V
2706	4822 124 40433	47µF 20% 25V
2707	4822 124 40196	220µF 20% 16V
2708	4822 124 40433	47µF 20% 25V
2709	4822 124 40433	47µF 20% 25V
2710	4822 124 41584	100µF 20% 10V
2711	4822 124 81151	22µF 50V
2712	4822 126 12878	1,5nF 10% 16V
2714	4822 126 12878	1,5nF 10% 16V
2715	4822 121 51387	10nF 20% 16V
2716	4822 126 12882	100nF +80-20% 50V
2719	4822 126 13098	5,6nF 20% 16V
2721	4822 126 12878	1,5nF 10% 16V
2722	4822 121 51387	10nF 20% 16V
2723	4822 126 12882	100nF +80-20% 50V
2726	4822 126 13098	5,6nF 20% 16V
2727	4822 126 12878	1,5nF 10% 16V
2728	4822 126 11714	4,7nF 20%
2729	4822 126 11714	4,7nF 20%
2730	2020 300 90561	1,2nF 10% 50V
2732	4822 122 10577	3,3nF 10% 16V
2733	4822 121 51387	10nF 20% 16V
2738	4822 121 51387	10nF 20% 16V
2739	4822 121 51387	10nF 20% 16V
2750	4822 126 13098	5,6nF 20% 16V
2751	4822 126 13098	5,6nF 20% 16V

**- RESISTORS -**

3701	4822 116 52175	100R 5% 0,5W
3703	4822 116 83868	150R 5% 0,5W
3704	4822 116 83872	220R 5% 0,5W
3706	4822 116 52272	330K 5% 0,5W
3707	4822 116 52285	470K 5% 0,5W
3710	4822 116 52264	27K 5% 0,5W
3712	4822 116 52238	12K 5% 0,5W
3713	4822 116 83868	150R 5% 0,5W
3714	4822 116 83872	220R 5% 0,5W
3716	4822 116 52272	330K 5% 0,5W

**- RESISTORS -**

3719	4822 116 52264	27K 5% 0,5W
3720	4822 116 52238	12K 5% 0,5W
3722	4822 116 52257	22K 5% 0,5W
3723	4822 116 52257	22K 5% 0,5W
3724	4822 050 21003	10K 1% 0,6W
3726	4822 116 52256	2,2K 5% 0,5W
3727	4822 116 52256	2,2K 5% 0,5W
3728	4822 050 21003	10K 1% 0,6W
3730	4822 116 83868	150R 5% 0,5W
3731	4822 116 52291	56K 5% 0,5W
3732	4822 116 52176	10R 5% 0,5W
3732	4822 116 52182	15R 5% 0,5W
3733	4822 111 30893	4,7M 5% 0,2W
3734	4822 050 21003	10K 1% 0,6W
3736	4822 116 52234	100K 5% 0,5W
3737	4822 050 21003	10K 1% 0,6W
3738	4822 116 52234	100K 5% 0,5W
3739	4822 050 21003	10K 1% 0,6W
3740	4822 116 52234	100K 5% 0,5W
3743	4822 116 83883	470R 5% 0,5W
3744	4822 116 83883	470R 5% 0,5W
3747	4822 116 83868	150R 5% 0,5W
3748	4822 116 83883	470R 5% 0,5W
3749	4822 116 83883	470R 5% 0,5W
3761	4822 116 52289	5,6K 5% 0,5W
3762	4822 116 52289	5,6K 5% 0,5W

**- COILS & FILTERS -**

5701	4822 157 10371	COIL
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**- DIODES -**

6704	4822 130 30621	1N4148
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**- IC & TRANSISTORS -**

7701	4822 130 40959	BC547B
7702	4822 130 40981	BC337-25
7703	4822 130 40981	BC337-25
7704	4822 130 40981	BC337-25
7705	4822 209 17498	AN7323

**Note: Only these parts mentioned in the list are normal service parts.**

**ELECTRICAL PARTSLIST - MTF BOARD (FOR /22 ONLY)****- MISCELLANEOUS -**

100	3140 114 20430	BRACKET
104	3140 111 20800	SPRING
120	4822 691 10633	TAPE DECK
1707	4822 277 11504	SWITCH-PUSH
1725	4822 265 11207	CONNECTOR SOCKET 6P

**- CAPACITORS -**

2700	4822 124 21913	1µF 20% 63V
2706	4822 124 40248	10µF 20% 63V
2707	4822 124 40196	220µF 20% 16V
2708	4822 124 40433	47µF 20% 25V
2709	4822 124 40433	47µF 20% 25V
2710	4822 124 41584	100µF 20% 10V
2711	4822 124 81151	22µF 50V
2712	4822 126 14247	1,5nF X7R 50V
2714	4822 126 14247	1,5nF X7R 50V
2715	5322 126 11583	10nF 10% X7R 50V
2716	2238 586 59812	100nF +80-20% Y5V 50V
2719	2238 586 15633	5,6nF 10% X7R 50V
2721	4822 126 14247	1,5nF X7R 50V
2722	5322 126 11583	10nF 10% X7R 50V
2723	2238 586 59812	100nF +80-20% Y5V 50V
2726	2238 586 15633	5,6nF 10% X7R 50V
2727	4822 126 14247	1,5nF X7R 50V
2728	4822 126 13193	4,7nF 10% X7R 63V
2729	4822 126 13193	4,7nF 10% X7R 63V
2730	2020 300 90561	1,2nF 10% 50V
2732	5322 126 11579	3,3nF10% X7R 63V
2733	5322 126 11583	10nF 10% X7R 50V
2738	5322 126 11583	10nF 10% X7R 50V
2739	5322 126 11583	10nF 10% X7R 50V
2750	2238 586 15633	5,6nF 10% X7R 50V
2751	2238 586 15633	5,6nF 10% X7R 50V
2770	4822 124 81151	22µF 50V
2771	4822 124 81151	22µF 50V
2772	4822 124 40756	1µF 20% 100V
2780	2238 586 59812	100nF +80-20% Y5V 50V

**- RESISTORS -**

3710	4822 051 30273	27K 5% 0,062W
3712	4822 051 30123	12K 5% 0,062W
3713	4822 051 30151	150R 5% 0,062W
3714	4822 051 30221	220R 5% 0,062W
3716	4822 051 30334	330K 5% 0,062W

**- RESISTORS -**

3719	4822 051 30273	27K 5% 0,062W
3720	4822 051 30123	12K 5% 0,062W
3722	4822 051 30223	22K 5% 0,062W
3723	4822 051 30223	22K 5% 0,062W
3724	4822 051 30103	10K 5% 0,062W
3726	4822 051 30222	2,2K 5% 0,062W
3727	4822 051 30222	2,2K 5% 0,062W
3729	4822 051 30103	10K 5% 0,062W
3730	4822 051 30151	150R 5% 0,062W
3731	4822 051 30563	56K 5% 0,062W
3732	4822 117 12971	15R 5% 0,62W
3733	4822 051 30475	4,7M 5% 0,062W
3734	4822 051 30103	10K 5% 0,062W
3736	4822 117 13632	100K 1% 0,62W
3737	4822 051 30103	10K 5% 0,062W
3738	4822 117 13632	100K 1% 0,62W
3739	4822 051 30103	10K 5% 0,062W
3740	4822 117 13632	100K 1% 0,62W
3743	4822 051 30471	470R 5% 0,062W
3744	4822 051 30471	470R 5% 0,062W
3747	4822 051 30151	150R 5% 0,062W
3748	4822 051 30471	470R 5% 0,062W
3749	4822 051 30471	470R 5% 0,062W
3761	4822 051 30562	5,6K 5% 0,063W
3762	4822 051 30562	5,6K 5% 0,063W
3770	4822 051 30151	150R 5% 0,062W
3771	4822 051 30334	330K 5% 0,062W
3772	4822 051 30221	220R 5% 0,062W
3773	4822 051 30474	470K 5% 0,062W
3774	4822 051 30101	100R 5% 0,062W
3775	4822 051 30471	470R 5% 0,062W
3776	4822 051 30471	470R 5% 0,062W
4701	4822 051 30008	0R J UMPER
4703	4822 051 30008	0R J UMPER
4705	4822 051 30008	0R J UMPER
4706	4822 051 30008	0R J UMPER
4708	4822 051 30008	0R J UMPER
4713	4822 051 20008	0R J UMPER(0805)
4714	4822 051 30008	0R J UMPER
5708	4822 051 30008	0R J UMPER
5709	4822 051 30008	0R J UMPER

**- COILS & FILTERS -**

5701	4822 157 10371	COIL
5702	2422 549 44608	IND FXD 100MHZ 1K
5703	2422 549 44608	IND FXD 100MHZ 1K
5704	2422 549 44608	IND FXD 100MHZ 1K
5705	2422 549 44608	IND FXD 100MHZ 1K



**ELECTRICAL PARTSLIST - MTF BOARD (FOR /22 ONLY)**

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**- COILS & FILTERS -**

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5706	2422 549 44608	IND FXD 100MHZ 1K
5707	2422 549 44608	IND FXD 100MHZ 1K
5710	2422 549 44608	IND FXD 100MHZ 1K

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**- DIODES -**

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6704	4822 130 30621	1N4148
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**- IC & TRANSISTORS -**

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7701	5322 130 60159	BC846B
7702	4822 130 40981	BC337-25
7703	4822 130 42804	BC817-25
7704	4822 130 42804	BC817-25
7705	4822 209 17498	AN7323

**Note: Only these parts mentioned in the list are normal service parts.**

**ELECTRICAL PARTSLIST - CD99/ DA11 BOARD****MISCELLANEOUS**

1800	4822 265 10925	FFC Socket 15P
1823	4822 265 11207	FFC Socket 6P
1824	4822 265 11207	FFC Socket 6P

**CAPACITORS**

2801	4822 124 41751	47µF 20% 50V
2802	4822 124 41751	47µF 20% 50V
2803	4822 126 14226	82pF 5% NP0 50V
2804	4822 126 14226	82pF 5% NP0 50V
2805	4822 126 14226	82pF 5% NP0 50V
2806	4822 126 13695	82pF 1% NP0 63V
2807	4822 126 11669	27pF 5% 50V
2808	5322 122 33538	150pF 2% NP0 63V
2809	4822 126 11669	27pF 5% 50V
2810	4822 126 13692	47pF 1% NP0 63V
2811	4822 126 11671	33pF 5% 50V
2812	4822 122 33741	10pF 10% NP0 50V
2813	4822 126 14238	2,2nF X7R 50V
2814	3198 024 44730	47nF Y5V 50V
2815	4822 122 33777	47pF 5% NP0 63V
2816	5322 122 32654	22nF 10% 63V
2817	4822 124 40769	4,7µF 20% 100V
2818	3198 024 44730	47nF Y5V 50V
2821	4822 126 14305	100nF 10% X7R 16V
2822	4822 126 13344	1,5nF 5% 63V
2823	4822 124 42383	220µF 20% 4V
2824	4822 126 13751	47nF 10% X7R 63V
2825	4822 126 13344	1,5nF 5% 63V
2826	3198 024 44730	47nF Y5V 50V
2827	5322 126 11578	1nF 10% X7R 50V
2828	4822 122 33777	47pF 5% NP0 63V
2829	3198 024 44730	47nF Y5V 50V
2830	3198 017 41050	1µF Y5V 10V
2831	4822 126 14043	1µF +80-20% 16V
2832	4822 122 33753	150pF 5% NP0 50V
2833	4822 126 13881	470pF 5% 50V
2834	4822 126 14506	270pF 5% 50V
2835	4822 126 13881	470pF 5% 50V
2836	4822 124 41751	47µF 20% 50V
2837	3198 024 44730	47nF Y5V 50V
2838	3198 017 42230	22nF Y5V 50V
2839	4822 126 14305	100nF 10% X7R 16V
2840	4822 124 41751	47µF 20% 50V
2841	4822 126 13751	47nF 10% X7R 63V
2842	4822 124 21913	1µF 20% 63V
2843	4822 122 31765	100pF 2% NP0 63V
2844	4822 126 13883	220pF 5% 50V
2845	4822 126 13883	220pF 5% 50V
2846	4822 124 40248	10µF 20% 63V
2848	4822 122 31765	100pF 2% NP0 63V

**CAPACITORS**

2849	4822 126 13883	220pF 5% 50V
2850	4822 126 13883	220pF 5% 50V
2851	4822 124 40248	10µF 20% 63V
2853	5322 126 11583	10nF 10% X7R 50V
2854	4822 124 11912	220µF 20% 6,3V
2855	4822 124 11912	220µF 20% 6,3V
2857	4822 124 12362	47µF 20% 4V
2860	5322 116 80853	560pF 5% 63V
2861	4822 126 13344	1,5nF 5% 63V
2862	4822 126 14508	180pF 5% 50V
2863	4822 126 14508	180pF 5% 50V
2864	4822 126 14508	180pF 5% 50V
2865	4822 126 14508	180pF 5% 50V
2869	3198 024 44730	47nF Y5V 50V
2870	4822 126 13883	220pF 5% 50V
2871	4822 126 13883	220pF 5% 50V
2872	4822 126 13883	220pF 5% 50V
2873	4822 126 13883	220pF 5% 50V
2874	4822 126 13883	220pF 5% 50V
2875	4822 126 13883	220pF 5% 50V

**RESISTORS**

3728	4822 051 20479	47R 5% 0,1W
3745	4822 051 30338	3R3 5% 0,1W
3757	4822 051 20223	22K 5% 0,1W
3788	4822 051 20472	4K7 5% 0,1W
3800	4822 117 13608	4R7 5% 0,1W
3801	4822 051 30154	150K 5% 0,1W
3802	4822 051 30102	1K 5% 0,1W
3803	4822 051 30273	27K 5% 0,1W
3804	4822 051 30472	4K7 5% 0,1W
3805	4822 051 30273	27K 5% 0,1W
3806	4822 117 10361	680R 1% 0,1W
3807	4822 051 30152	1K5 5% 0,1W
3808	4822 051 30339	33R 5% 0,1W
3809	4822 051 30339	33R 5% 0,1W
3810	4822 052 10478	4R7 5% 0,33W
3811	4822 051 30102	1K 5% 0,1W
3812	4822 051 30474	470K 5% 0,1W
3813	4822 051 30683	68K 5% 0,1W
3814	4822 051 30332	3K3 5% 0,1W
3815	4822 051 30472	4K7 5% 0,1W
3816	4822 051 30153	15K 5% 0,1W
3817	4822 117 10834	47K 1% 0,1W
3818	4822 051 20562	5K6 5% 0,1W
3819	4822 051 30153	15K 5% 0,1W
3820	4822 051 30183	18K 5% 0,1W

**ELECTRICAL PARTSLIST - CD99/ DA11 BOARD****RESISTORS**

3821	4822 051 20332	3K3 5% 0,1W
3822	4822 051 30332	3K3 5% 0,1W
3823	4822 051 20332	3K3 5% 0,1W
3824	4822 051 30102	1K 5% 0,1W
3825	4822 051 30223	22K 5% 0,1W
3826	4822 051 30273	27K 5% 0,1W
3827	4822 051 20339	33R 5% 0,1W
3828	4822 051 20479	47R 5% 0,1W
3829	4822 051 30101	100R 5% 0,1W
3830	4822 051 30472	4K7 5% 0,1W
3835	4822 051 30223	22K 5% 0,1W
3836	4822 117 10833	10K 1% 0,1W
3837	4822 051 20471	470R 5% 0,1W
3838	4822 051 20471	470R 5% 0,1W
3839	4822 051 30471	470R 5% 0,1W
3840	4822 051 30471	470R 5% 0,1W
3841	4822 051 30472	4K7 5% 0,1W
3842	4822 051 10102	1K 2% 0,25W
3843	4822 051 30102	1K 5% 0,1W
3844	4822 051 30101	100R 5% 0,1W
3845	2120 108 92668	3R3 5% 0,1W
3846	4822 051 20223	22K 5% 0,1W
3847	4822 117 12864	82K 5% 0,6W
3848	4822 117 10834	47K 1% 0,1W
3849	4822 051 30563	56K 5% 0,1W
3850	4822 117 12902	8K2 1% 0,1W
3851	4822 051 30563	56K 5% 0,1W
3852	4822 117 10834	47K 1% 0,1W
3853	4822 051 30153	15K 5% 0,1W
3854	4822 117 12902	8K2 1% 0,1W
3855	4822 116 40227	4R6 25% 12V
3856	4822 051 20683	68K 5% 0,1W
3857	4822 051 20154	150K 5% 0,1W
3858	4822 051 30392	3K9 5% 0,1W
3859	4822 117 10834	47K 1% 0,1W
3860	4822 051 30102	1K 5% 0,1W
3861	4822 117 10834	47K 1% 0,1W
3862	4822 051 10102	1K 2% 0,25W
3863	4822 052 10338	3R3 5% 0,33W
3864	4822 117 10833	10K 1% 0,1W
3865	4822 051 30102	1K 5% 0,1W
3867	4822 051 20223	22K 5% 0,1W
3868	4822 051 30103	10K 5% 0,1W
3869	4822 051 30103	10K 5% 0,1W
3871	4822 051 30471	470R 5% 0,1W
3872	4822 117 12925	47K 1% 0,1W
3873	4822 051 30223	22K 5% 0,1W
3874	4822 051 30223	22K 5% 0,1W
3875	4822 051 30103	10K 5% 0,1W
3876	4822 051 30103	10K 5% 0,1W

**RESISTORS**

3878	4822 051 30471	470R 5% 0,1W
3879	4822 117 12925	47K 1% 0,1W
3880	4822 051 20339	33R 5% 0,1W
3881	4822 051 30151	150R 5% 0,1W
3882	4822 117 11373	100R 1% 0,1W
3883	4822 051 30102	1K 5% 0,1W
3884	4822 051 30102	1K 5% 0,1W
3886	4822 117 10833	10K 1% 0,1W
3887	4822 117 10833	10K 1% 0,1W
3888	4822 051 20472	4K7 5% 0,1W
3889	4822 051 30102	1K 5% 0,1W
3890	4822 117 10837	100K 1% 0,1W
3891	4822 117 10837	100K 1% 0,1W
3892	4822 117 13632	100K 1% 0,62W
3893	4822 117 13632	100K 1% 0,62W
3894	4822 117 10833	10K 1% 0,1W
3895	4822 117 10833	10K 1% 0,1W
3896	4822 117 10833	10K 1% 0,1W
3897	4822 117 10833	10K 1% 0,1W
3898	4822 117 10833	10K 1% 0,1W
3899	4822 117 10833	10K 1% 0,1W
3900	4822 051 30223	22K 5% 0,1W
4801	4822 051 30008	0R Jumper 0603
4802	4822 051 20008	0R Jumper 0805
4807	4822 051 20008	0R Jumper 0805
4808	4822 051 30008	0R Jumper 0603
4809	4822 051 20008	0R Jumper 0805
4810	4822 051 20008	0R Jumper 0805
4812	4822 051 20008	0R Jumper 0805
4813	4822 051 20008	0R Jumper 0805
4814	4822 051 20008	0R Jumper 0805
4815	4822 051 20008	0R Jumper 0805
4823	4822 051 20008	0R Jumper 0805
4824	4822 051 20008	0R Jumper 0805
4828	4822 051 20008	0R Jumper 0805
4831	4822 051 20008	0R Jumper 0805
4832	4822 051 20008	0R Jumper 0805
4838	4822 051 20008	0R Jumper 0805
4845	4822 051 20008	0R Jumper 0805
4847	4822 051 20008	0R Jumper 0805
4848	4822 051 20008	0R Jumper 0805
4850	4822 051 20008	0R Jumper 0805
4853	4822 051 20008	0R Jumper 0805
4856	4822 051 30008	0R Jumper 0603
4857	4822 051 20008	0R Jumper 0805
4859	4822 051 20008	0R Jumper 0805
4863	4822 051 20008	0R Jumper 0805
4865	4822 051 20008	0R Jumper 0805
4866	4822 051 20008	0R Jumper 0805
4872	4822 051 20008	0R Jumper 0805

**ELECTRICAL PARTSLIST - CD99/ DA11 BOARD****RESISTORS**

4877	4822 051 30008	0R J umper 0603
4881	4822 051 20008	0R J umper 0805
4884	4822 051 20008	0R J umper 0805
4885	4822 051 30008	0R J umper 0603
4886	4822 051 20008	0R J umper 0805
4888	4822 051 20008	0R J umper 0805
4889	4822 051 20008	0R J umper 0805

**COILS AND FILTERS**

1810	4822 242 73557	CST8,46MTW-TF01
5803	4822 157 11231	1 $\mu$ H 5%

**DIODES**

6877	9322 129 34685	BZM55-C3V9
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**TRANSISTORS & IC**

7800	9352 690 17557	SAA7325H/T/M2B/WD
7802	5322 209 11517	PC74HCU04T
7803	5322 130 60123	BC807-40
7804	5322 209 82941	LM358D
7807	5322 130 42755	BC847C
7808	4822 209 32852	TDA7073A/N2
7809	4822 209 32852	TDA7073A/N2
7810	4822 209 33165	TDA1308T/N1
7875	4822 130 60511	BC847B